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Washington, D.C. 20554**

In the Matter of

Review of the Commission's Program
Access Rules and Examination of Pro-
gramming Tying Arrangements

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Wholesale Packaging of Video Programming

Bruce M. Owen

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Attachment 3: Re MB Docket No. 04-207, joint letter to Chief, Media Bureau, FCC, 2004.

Attachment 4: The FCC “Further Report” on the Retail Marketing of Video Programming Services: An Economic Review, 2006.

Attachment 5: Benefits of Bundling and Costs of Unbundling Cable Networks, 2004.

Wholesale Packaging of Video Programming

Executive Summary

Federal Communications Commission regulation of the wholesale packaging of video programming services sold to “small” cable television companies would be unwarranted and imprudent. The alleged conduct that is at issue appears to be rare, if it exists at all. Even if the conduct did exist, there is no assurance that eliminating it would make any cable operators, direct satellite broadcasters, and other retail distributors (“MVPDs”) or consumers better off. On the other hand, a regulatory intervention has clear costs and risks. The same conclusions apply to regulation of wholesale packages sold to “large” MVPDs. In the United States, markets are allowed to work free from regulation, absent clear evidence of market failure or abuse of market power, neither of which is present in the diverse and competitive market for video programming.

Here, briefly, are the reasons for my conclusions.

1. **Facts.** The most obvious reason not to regulate wholesale packaging of video programming, in the form described by the Commission, is that it apparently occurs in the marketplace rarely, if at all. The program suppliers explain that while they frequently offer packages of networks to both large and small MVPDs, they also negotiate deals for variations on those packages, including the addition and deletion of individual networks with corresponding changes in prices, and stand-alone pricing for their networks. My own empirical investigation, described herein, produced results consistent with this claim. It follows that there is no “‘take-it-or-leave-it’ tying.” (And even if there *were* “‘take-it-or-leave-it’ tying,” or what the formal economic literature calls “pure bundling,” economic analysis would not support regulatory intervention.)
2. **Suppliers lack market power.** The industry that supplies video content at wholesale to MVPDs has a competitive structure—it is not concentrated, and the largest supplier has less than 25% of the business. An enormous body of legal and economic policy analysis takes the view that a regulatory intervention aimed at correcting a potential market failure (in this case, the supposition that wholesale packaging is a potentially inefficient marketing practice) is misguided when sellers lack market power. While antitrust analysis certainly is fallible and sometimes controversial, antitrust courts and scholars have far more experience dealing with “tying” and “bundling” than does the Commission. The Commission lacks sound reasons to reject this learning.

3. **The concept of “must have” programming is economic nonsense.** If “must have” programming has any meaning, it means “essential” to the ability to compete. But a “must have” network, as the Commission appears to use that term, is simply a network that makes a cable operator or other MVPD more profitable than otherwise, given its remaining carriage choices and the price it would like to pay for the network. It does not follow that such networks are essential for the survival of an MVPD as a viable competitor. Few, if any, MVPDs are likely to go out of business for lack of a particular network; instead, they will simply adjust other programming choices, prices, and marketing strategy. The econometric results on which the Commission relies do not even address the question of whether some networks are essential.
4. **Retail bundling is not caused by wholesale packaging.** Retail packaging of video content into “tiers” has been the subject of recent policy debate, to which my colleagues and I have made contributions. (See Attachments 1-5.) Although the Commission does not say so in its Notice, its otherwise puzzling concern with wholesale packaging apparently is related to the possibility that wholesale packaging of networks (if it existed in the form the Commission describes, which it apparently does not) might be the cause of *retail* “bundling.”¹ If so, the Commission is mistaken. Even if wholesale “take-it-or-leave-it” tying took place, it would not preclude MVPDs from unbundling content at the retail level. Even if wholesale packaging were banned, it would not necessarily affect MVPDs’ packaging to consumers.
5. **Video economics explains transactions patterns.** Understanding the economics of video distribution requires attention to both customer (whether MVPD or subscriber) demand for content and advertiser demand for viewers. Because of the prospect of advertising revenue, content providers have an incentive to offer lower prices to content customers in return for higher penetration and larger audiences. The prices and contract terms (including carriage commitments) observed in the marketplace necessarily reflect *both* sources of demand. Any given content made available to fewer subscribers will produce less advertising revenue. Faced with a reduction in potential distribution, a

¹ The term “bundling” often has a special meaning in economics (and antitrust analysis) that is not fully congruent with its use in ordinary conversation. I have tried to use the term “packaging” here to approximate the informal usage, and “bundling” when referring to the economic usage.

competitive supplier of such content, in order to avoid losses, must either increase the price of the content or lower the quality of the content to the cable operator and thus, ultimately, to the consumer. For this reason, program suppliers offer the lowest content prices to MVPDs who agree to make the content available to as many subscribers as possible. The resulting contract necessarily must specify both a price and a carriage commitment. Perhaps observing this natural competitive market outcome creates the false impression that the MVPD is “forced” to carry particular content on particular tiers. But the only compulsion involved is the desire of both parties to make the most economically efficient, and therefore profitable, bargain, in a competitive market where failure to do so could ultimately prove fatal.

6. **Competitive stand-alone prices may exceed competitive package prices.** Because cable networks apparently can already be purchased in the wholesale market both as packages and individually, it is possible that buyers are complaining because they perceive that the sum of the prices at which individual networks are offered compares unfavorably with the prices of various packages. This misperception, while perhaps understandable, betrays a fundamental misunderstanding of the video programming marketplace.

Program suppliers offer both established content with relatively high demand and newer or less popular content that requires additional penetration in order to succeed in attracting advertising revenue. The stand-alone competitive price for the new or less popular content may well be negative. In other words, the program supplier would be willing to pay the MVPD for higher penetration for certain channels, both because that lowers unit costs per viewer and because it increases advertising revenue. The payment to carry less desirable content may take the form of a price discount on the more popular content if the MVPD agrees to take both. As a result, the competitive price for a package of content may be less than the competitive price for a stand-alone unit of content—whether a popular program or a popular channel—by itself. This can lead to the erroneous conclusion that the supplier is “forcing” the buyer to carry the less popular network.

7. **Regulation of “mixed bundle” packaging is impractical.** “Mixed bundling” refers to offering products both as packages and on a stand-alone basis, and this appears to be the way in which programming is sold to MVPDs. Effective regulation of mixed bundling, even if it were desirable, would require imprac-

tical cost-based rate regulation. Suppose that the Commission sought to achieve an outcome in which every “small” cable operator was presented with a set of “reasonably priced” stand-alone alternatives to packaged video programming options. The Commission could not expect such a regulation to be self-enforcing. Disputes would arise. Predictably, some cable operator would claim that some particular network was “unreasonably” overpriced. The Commission would have to assure itself that any proposed lower package price was compensatory. Neither the traditional tools of utility regulation nor more modern tools such as rate caps offer a practical solution to such disputes.

8. **Bundling can *increase* welfare and diversity.** Even in the extreme case of bundling by a monopolist, obviously absent here, bundling may either increase or decrease economic efficiency and consumer welfare. Whether increase or decrease can be predicted to occur depends on which of many candidate abstract economic models one has in mind and on the validity of specific assumptions in that model. There is no economic model clearly applicable to the special features of wholesale provision of video programming (non-rivalrous services, two-sided markets, multiple temporal and geographic releases, etc.). Even aside from these special features, there are intrinsic economic characteristics of the business that make bundling likely to be efficient: complementarities in production and marketing (e.g., cross-promotion) and savings in transaction and bargaining costs. Similarly imponderable are the potential effects on diversity, however defined. The Commission is not likely through this proceeding or otherwise to uncover empirical evidence sufficient to avoid a very substantial risk that a regulatory intervention will reduce efficiency and welfare.
9. **No “bright lines” delineate program package components.** *All* video products are packages, or packages of packages. This simple fact undermines the conceptual basis of any proposal to regulate packaging or bundling. Regulating the extent of packaging necessarily implies that the Commission can reasonably determine the “legitimate” economic boundaries of the regulated services. But the Commission lacks a foundation for establishing such boundaries, especially for the range of services called video programming.

The most basic component of video programming service is an apparently unitary but highly variable package of services called by such names as episode, segment, special, game or movie. Such a basic unit itself is not well-defined,

made up of varying proportions of other services, such as content, promotion, and embedded advertising. But very few wholesale video programming transactions involve even such relatively basic units. Video programming is instead almost always packaged when it is sold to retail distributors. For example, episodes are packaged into series. Series are bundled into daily, weekly, and seasonal schedules, or “channels.” Channels, or networks, are packaged into multichannel groups. There is no economic basis for an assumption that consumers are better off by preserving the opportunity of retailers to purchase individual wholesale “channels” of programming, even if that option appeared to be threatened.

10. **Regulation of packaging threatens other FCC objectives.** Virtually all economists and economic models agree that bundling brings benefits to some customers, even in cases where other customers are worse off. But which ones? While the demand characteristics of the customers who gain or lose from bundling can be described in technical terms, it is seldom possible to identify those customers' other characteristics, such as their economic or social status. Even if the Commission were persuaded that aggregate consumer welfare would increase if bundling were restricted, the Commission would risk violating other policy objectives it favors.

At the retail level, for example, this implies that even if aggregate welfare were increased this would be achieved only by making some unknown group of viewers worse off. Before such a decision could be made, it is important for the Commission to assess the risk that the worse-off consumers may be those whom the Commission wishes to favor (the poor, the elderly, the young, or minority groups, for example.) The Commission lacks information on such effects. Regulatory intervention at the wholesale level presents similar issues. First, the downstream effects on particular consumers are even more difficult to predict. Second, why should the Commission favor one set of “small” cable operators at the expense of other “small” cable operators?

11. **Packages often save time and money for smaller buyers.** Even if program suppliers did offer “take-it-or-leave-it” packages to small cable operators, contrary to the representations of the suppliers and the empirical evidence, that could be an entirely normal and efficient competitive market outcome. In every industry, smaller customers have fewer choices than larger ones, because smaller buyers and sellers alike do not find it worthwhile to bear the

considerable costs of bargaining over the details of complex transactions. Consumers who want to purchase only 11 eggs rather than a dozen do not bargain either with the producer or the retailer about the issue. They either discard (or save) the extra egg or do not buy eggs. Communication lawyers specializing in broadcasting may purchase volume 47 of the Code of Federal Regulations, which combines Parts 70 through 79, even though their interest is limited to Part 73 (broadcast). Bargaining would simply increase enormously the cost (and price) of the transaction, disadvantaging both buyer and seller. Negotiation and related costs tend to be a larger percentage of small transactions than larger ones. In this circumstance, what may appear to be the exercise of market power is nothing but the commonplace phenomenon of small buyers being offered standardized products at list prices, while large customers and their suppliers find it worthwhile to negotiate off-list, non-standard deals. This is not economically inefficient. A regulation requiring individualized negotiation over arbitrarily-defined components of product packages for all customers, regardless of size, likely would reduce welfare.

12. **Unintended side effects are a likely result of regulation.** Unpredictable unintended side effects are a likely result of any regulation of wholesale packaging the Commission might attempt. Viewer welfare is related not only to the quantity of programming, but also to its quality. Attractive programming costs more to produce than less attractive programming. Advertiser demand is related to the size of the audience delivered by the programming. Advertising revenue, given competition, affects viewer welfare because competing programmers exhaust any disequilibrium rents in expenditures on increased program quality. The point of unbundling wholesale video programming, presumably, is to respond to the claim that “small” cable operators would choose networks different from those they now carry, not merely to permit them to carry the same networks at a lower total price. But a change in the program choices of “small” operators will change the size of the audience for each affected network. These changes, even though individually small, can have a magnified effect on program quality.

I. Introduction

A. Background

I am the Gordon Cain Senior Fellow at the Stanford (University) Institute for Economic Policy Research, the Morris M. Doyle Centennial Professor in Public Policy, and by courtesy, Professor of Economics, in the Stanford School of Humanities and Sciences, and Director of the Stanford Graduate and Undergraduate Public Policy Programs. Earlier, I was president of Economists Incorporated, an economic consulting firm that specializes in antitrust and regulatory policy analysis. Prior to that, I was at different times chief economist of, respectively, the Antitrust Division of the U.S. Department of Justice and the White House Office of Telecommunications Policy. My PhD in economics was conferred by Stanford in 1970. I have written extensively about mass media economics and policy, including broadcasting, cable television, and program supply. My most recent book was *The Internet Challenge to Television* (Harvard University Press, 1999).

In a recent Notice of Proposed Rulemaking, the Commission seeks information about the methods used by firms producing programming to sell their programming to MVPDs.² In particular, the Commission is concerned about assertions by “small and rural MVPDs as well as program access complainants” that programmers offer their programming as a bundle with no alternative to purchase alternative bundles or to purchase networks individually. The Commission describes the alleged practice as “take-it-or-leave-it’ tying.” (NPRM, ¶¶ 129-132). The Commission expresses concern that tying “hinders significantly or prevents MVPDs from providing satellite cable programming to subscribers.” (NPRM, ¶ 130)

Fox, NBC Universal (“NBCU”) and Viacom MTVN have asked me to provide an economic analysis of these and related issues. My Economists Incorporated colleagues Michael Baumann, John Gale, and Kent Mikkelsen have assisted me in this work.

² *In the Matter of Review of the Commission’s Program Access Rules and Examination of Programming Tying Arrangements*, Notice of Proposed Rulemaking, MB Docket No. 07-198, Released Oct. 1, 2007; Adopted Sept. 11, 2007 (“NPRM”).

B. Standard of Review for Economic Assessment of Proposed Regulations

U.S. economic policy exhibits a longstanding presumption in favor of competitive market solutions, where feasible. The presumption is not merely ideological, it is pragmatic. Competitive markets create incentives for private actors to change their behavior in response to opportunities to better serve consumers. Such incentives are absent or distorted in many regulated markets. Even when a regulatory intervention is welfare-enhancing in a particular circumstance, circumstances change, but often regulations do not.

As recently as 1996, Congress opted for increased reliance on competition and deregulation in the communications industries, including those at issue in this proceeding. In the years following the Telecommunications Act of 1996, there was a substantial increase in video competition and output, especially from new technologies, such as satellite broadcasting and broadband internet service. This competition continues to grow. Despite this highly competitive marketplace, deregulation has made little progress. Indeed, in this and related proceedings, the Commission proposes to increase the extent of its cable regulation.

Given the presumption in favor of letting competition determine market outcomes and the difficulty of reforming welfare-reducing regulatory policy, proponents of any regulatory intervention seeking to mandate outcomes different from those emerging from competitive markets should carry the burden of demonstrating:

- ❖ the existence of a market failure with economic harm to consumers and
- ❖ the likelihood that the regulatory intervention will remedy that failure, improving consumer welfare.

A market failure lowers welfare by reducing aggregate output, measured by the value placed on that output by consumers, compared to what is potentially achievable given available resources. While market failures are not uncommon, measuring the extent of their harm often is challenging. Empirical evidence of harm to consumer welfare is key, not only because of the presumption in favor of nonintervention, but because almost any remedy will have costs which must be weighed against the potential benefits of intervention. Experience shows that regulatory failure is at least as common as market failure.

After demonstrating the existence and extent of harm to consumers, it must be shown that the proposed intervention will either benefit some consumers individually and leave no consumers worse off, or benefit consumers as a group. If the latter, it must be further demonstrated that the benefits to those consumers who gain from the in-

intervention outweigh, from a social policy perspective, the losses to those harmed by intervention. Doing so requires that the relevant characteristics of the two groups of consumers can be identified—for example, poor versus non-poor.

None of the costs or benefits of a regulatory intervention, or for that matter the underlying problem to which the intervention is addressed, can be determined with certainty. It is quite common to find in retrospect that a regulatory intervention has unintended and unanticipated consequences, such as changes in the behavior of suppliers as they adapt to new incentive structures. Nevertheless, even regulations that are generally agreed to be harmful to consumer welfare can be very hard to change, as the experience with the 1996 Telecommunications Act demonstrates. The implication of these risks and uncertainties, together with the presumption in favor of competitive market solutions, is that the Commission should exercise considerable caution when considering new constraints on market outcomes.

It is this concern with prudence that has led antitrust prosecutors and courts to adopt the specific screening criteria commonly applied to unilateral vertical restraints, the general category of economic behavior alleged here. The most important screen is the insistence that market power be present before any proposed intervention is considered. A second applicable screen is the idea that harm to competition (i.e., to the process that promotes consumer welfare) is a key requirement for intervention, whereas harm to competitors is not. Specifically, any remedy must not protect inefficient suppliers from efficient suppliers.

II. Facts

The most obvious reason to refrain from federal regulation precluding wholesale packaging of video programming, in the form described by the Commission, is that it rarely, if ever, occurs in the marketplace. The program suppliers explain that while they frequently offer MVPD customers, large and small, choices that include packages of networks, they also negotiate deals for variations on those packages, including the addition and deletion of individual networks with corresponding changes in prices, and offer networks individually outside of any package.

My own empirical investigation, described in this section, produced results consistent with this claim. It follows that there is little or no “take-it-or-leave-it” tying.” But even if there *were* “take-it-or-leave-it” tying” economic analysis would not support regulatory intervention.

I have reviewed information provided by Fox, NBCU and Viacom describing the way in which each of these programmers reaches agreements with MVPDs on which networks will be purchased and what fees will be paid. My colleagues and I have also interviewed personnel at each of these programmers regarding these practices. Based on this information, it is my understanding that none of these program suppliers offers MVPDs fixed bundles of networks on a “take-it-or-leave-it” basis. All MVPDs are given the opportunity to purchase networks outside of any bundle on a stand-alone basis. In addition, when MVPDs purchase multiple networks, these programmers are willing to—and commonly do— negotiate over how many and which networks will be purchased and which systems will carry which networks.

Clearly, what is happening currently in the wholesale marketplace is not “bundling” in the sense in which that word is used in the economics literature. There is not a fixed bundle of networks that every MVPD purchases from any given program supplier; rather, different MVPDs buy different packages of networks. The Commission’s view—though this is not explicit—apparently is that there is a set bundle.

The economic consensus on retail bundling is that the Commission should not require “pure bundles” to be replaced, either by mixed bundles or by pure stand-alone pricing.³ Applied to wholesale programming, the economic argument would be that the FCC should not intervene in private programming negotiations just to outlaw something programmers apparently don’t do. If the Commission simply misapprehends the facts, perhaps the debate should end.

Still, it may be helpful to state as clearly as possible the economic motivation behind the behavior observed in what to all appearances is a competitive wholesale market for video programming. Each individual MVPD is typically offered, by a given multi-network program supplier, one or more network packages at particular prices and a series of stand-alone prices for individual networks. The MVPD is not required to take a package that includes a less desirable network, but the price of the package containing that network may be more attractive—it may even be lower than the price without the less desirable network (reflecting an implicit negative price for the less desirable network). The program supplier offers alternative price incentives designed to

³ In the literature, a seller who offers a set bundle of goods, but none of its components, is said to engage in “pure bundling.” If the seller offers individual components, but no bundle, it engages in a la carte pricing. If both alternatives are offered, there is said to be “mixed bundling.” For further discussion of the economic consensus regarding retail bundling by MVPDs, see Attachment 3.

induce the MVPD to take as much programming as possible and to distribute the programming to as wide a subscriber base as possible.

Viewed in this light, what MVPD complainants may really object to is that the price offered for the “desirable” programming is not available without the “less desirable” programming.

I have analyzed data showing the cable networks carried by individual cable systems to see whether they support the allegation that programmers give MVPDs “take-it-or-leave-it” offers that require them to take all their networks. For my analysis, I have focused on nationally-distributed basic cable networks⁴ launched prior to 2004.⁵ Non-English language networks owned by programmers also offering English language networks were not included in the study.⁶

Viacom provided data on the carriage of 18 Viacom networks by 205 small⁷ U.S. cable systems with fewer than 10,000 subscribers that contract for network carriage directly with Viacom, not through the NCTC.⁸ Figure 1 shows the percentage of these

⁴ On-demand, premium, pay-per-view, and regional channels are not included.

⁵ At any given time, cable systems may be under multi-year agreements with programmers. Even if it were true that programmers “coerced” cable systems to carry all their programming, it could take several years after launch before all cable systems entered new agreements that required such carriage. Hence, evidence that systems do not carry a newly-launched network was not considered useful in testing the “coercion” hypothesis. For this reason, networks launched within the last four calendar years were excluded from the analysis.

⁶ The “coercion” hypothesis was interpreted not to imply that all cable systems, even those with very low Spanish-speaking population, are required to carry Spanish-language programming. Hence, Spanish-language networks were excluded except for Univision. Univision carries only Spanish-language networks and, under the hypothesis, could require that all systems carrying any of their networks carry all their networks. The networks included in the study are listed in Appendix 1.

⁷ Because of data limitations, the definition of “small cable system” in Figures 1 and 2 differs from that used in the balance of this paper. See n. 10 *infra*. The 18 networks are listed in Figure 2.

⁸ NCTC is a buying cooperative made up of small and medium-size cable operators. According to its web site (<http://www.cabletvcoop.org/abouts.asp>), “NCTC is a not-for-profit, member-operated purchasing organization. ... NCTC negotiates and administers master affiliation agreements with cable television programming networks, cable hardware and equipment manufacturers and other service providers on behalf of our member companies. Through joint purchasing and negotiation, NCTC functions similar to a multi-system operator (MSO), taking advantage of volume discounts offered by programming networks, hardware manufacturers, and other providers. This results in significant cost savings for members on the purchase of these products and services. ... Today, continued ...

small systems carrying just one of these Viacom networks, two networks, etc. About 10 percent of the systems take only a single Viacom network. More than half the systems take two, three or four networks. None of the systems take all, or even 17 of 18, of the Viacom networks studied. These data show that small systems are not required to take all Viacom networks, and that different systems reach different agreements about the number of Viacom networks they will carry.

Figure 1

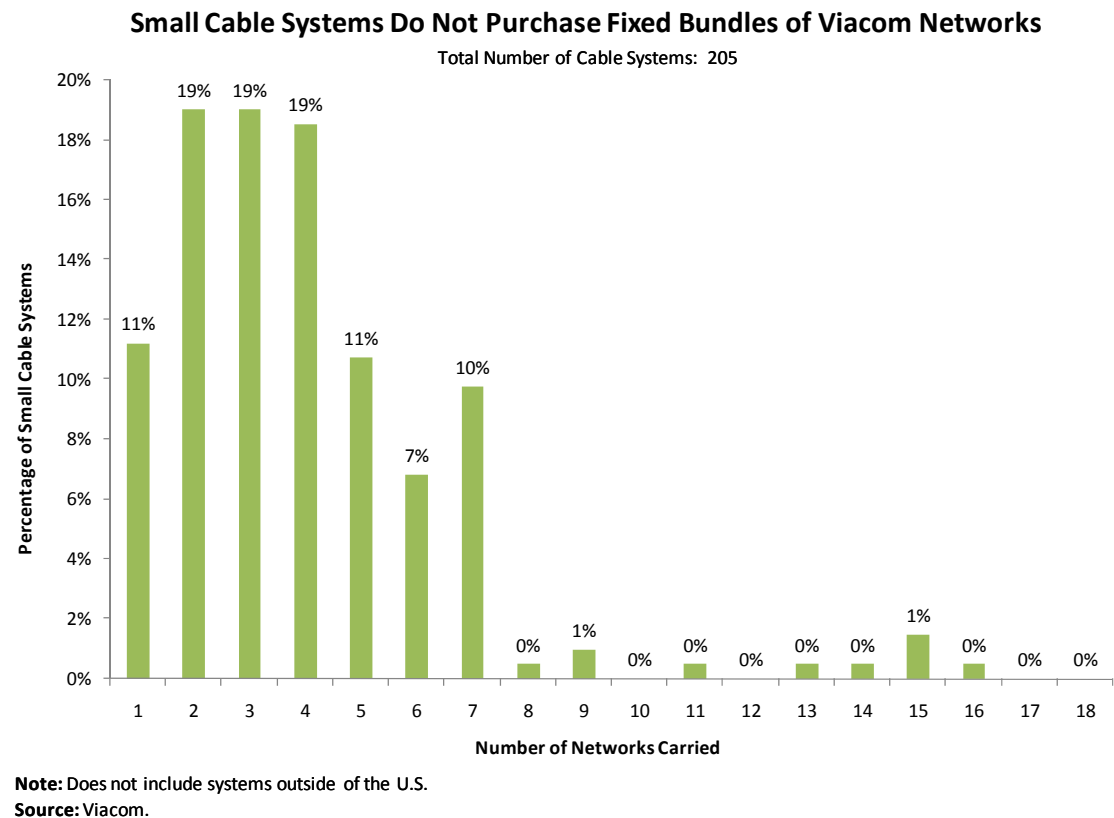


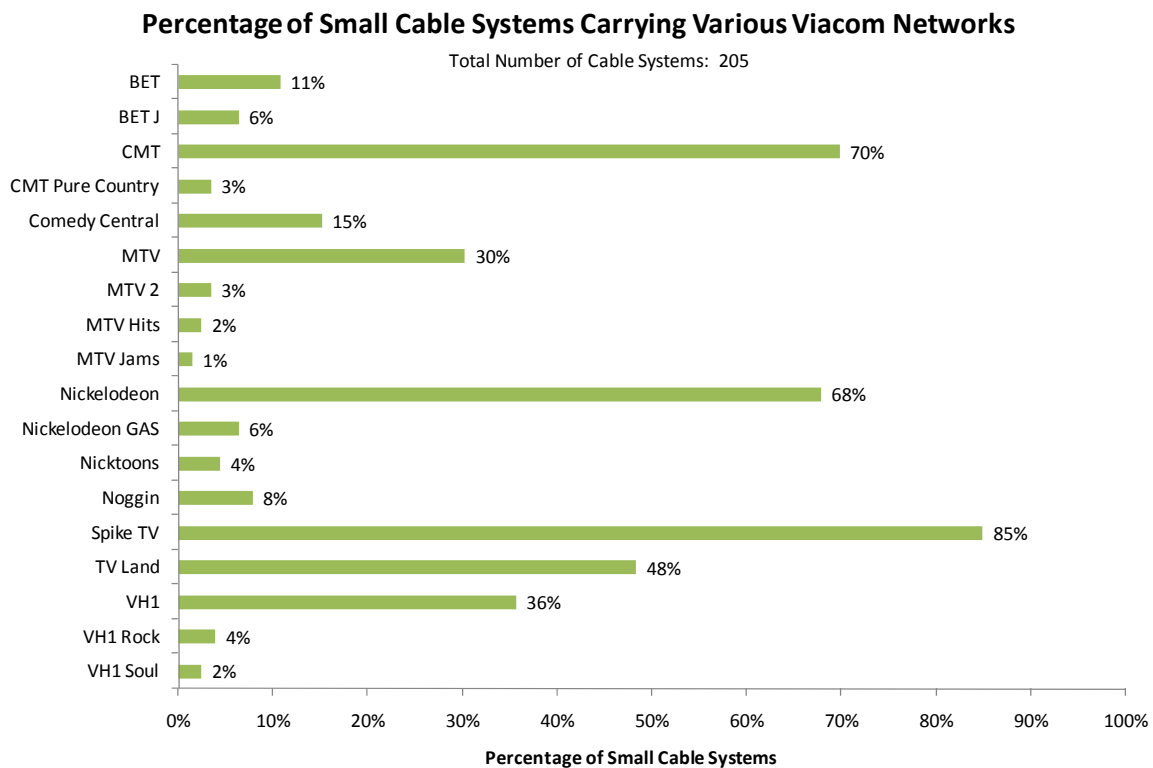
Figure 2 shows the percentage of these small systems carrying each of the 18 Viacom networks. *None* of the small systems carried all the networks. Spike was carried on more systems than any other network, but even so 15 percent of the systems did not carry Spike. No other network was carried by as many as 70 percent of the systems. The systems not carrying MTV or VH1 vastly outnumbered those that did carry MTV or VH1. These results agree with Viacom’s representations that systems are free to,

NCTC has more than 1,000 member companies that serve more than 12 million subscribers. ... Our member companies range in size from fewer than 100 subscribers to more than 1 million.

and do, accept or reject individual networks. There is no evidence here of a “take-it-or-leave-it” package.

Figure 2 actually understates the diversity of network packages that systems carry. For instance, the systems carrying four Viacom networks carried 12 different combinations of networks. Less than half of the systems taking four Viacom networks carry the most common combination. See Appendix 2.

Figure 2



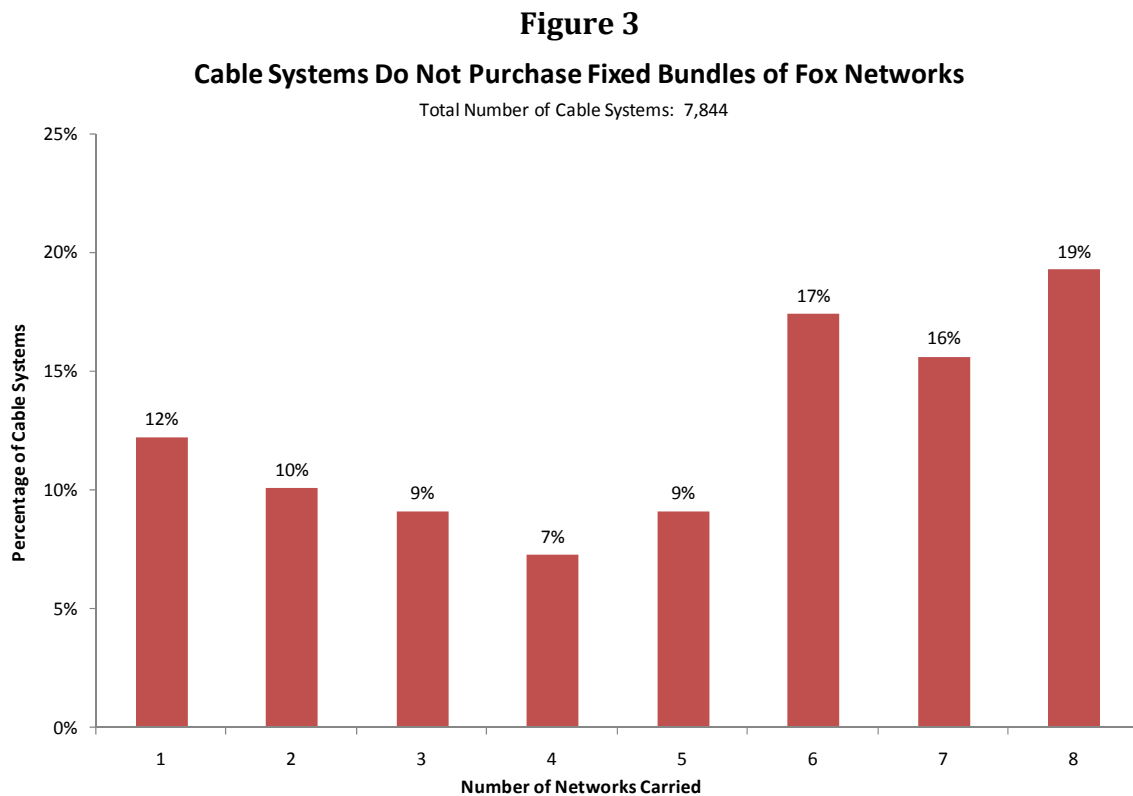
Note: Does not include systems outside of the U.S.

Source: Viacom.

Similarly, Fox supplied data identifying each of the cable systems carrying its networks. I focused on eight nationally distributed networks launched before 2004.⁹ See Figure 3. A minority of all cable systems (19 percent) take all eight networks. More than twelve percent take only one network. Clearly, cable systems are not required to

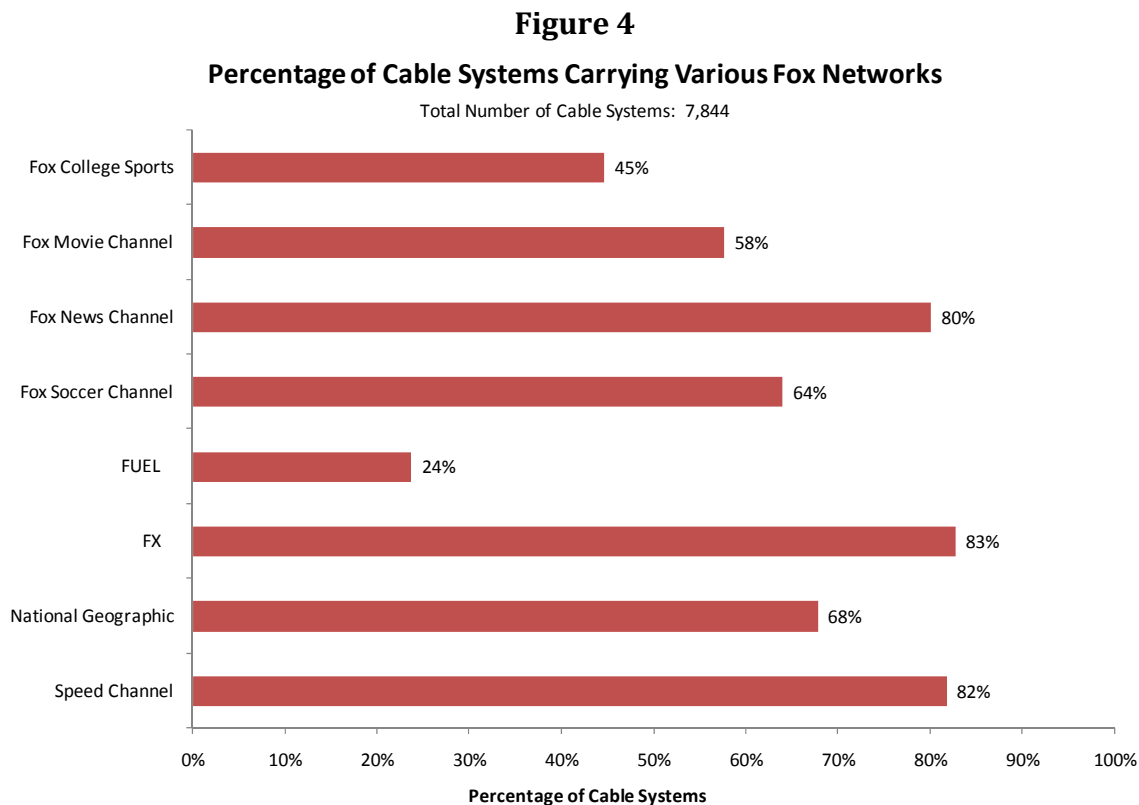
⁹ The eight networks studied were Fox College Sports, Fox Movie Channel, Fox News Channel, Fox Soccer Channel, FUEL, FX, National Geographic and Speed Channel.

take, and do not carry, all Fox networks. Different operators reach different agreements about the number of Fox networks they will carry.



Source: Fox.

Figure 4 shows the percentage of cable systems carrying each of the eight Fox networks. None of the networks is carried by all the systems. FUEL was carried by less than 25 percent of systems. These data are not consistent with the allegation that cable systems are presented with a “take-it-or-leave-it” package for all Fox’s nationally distributed programming. The data are consistent with Fox’s representation that systems are free to accept or reject individual networks.



Source: Fox.

The NPRM focuses particularly on small MVPDs. For this reason, I repeated the analysis of Fox networks reflected in Figures 3 and 4, restricting the data to include only systems owned by MSOs with fewer than 400,000 subscribers.¹⁰ This restriction eliminated the systems owned by the ten largest MSOs.¹¹ Among small operators, it is even less common for systems to carry all eight Fox networks. About one in five of these small operators' systems takes only a single Fox network, as shown in Figure 5. Further, systems taking the same number of Fox networks do not necessarily take the

¹⁰ The Commission has elsewhere used this definition to delineate small cable systems. See In the Matter of Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation, MM Docket No. 92-266; MM Docket No. 93-215, Released June 5, 1995; Adopted May 5, 1995, ¶ 3. Except where otherwise indicated, this "FCC definition" is used throughout this paper.

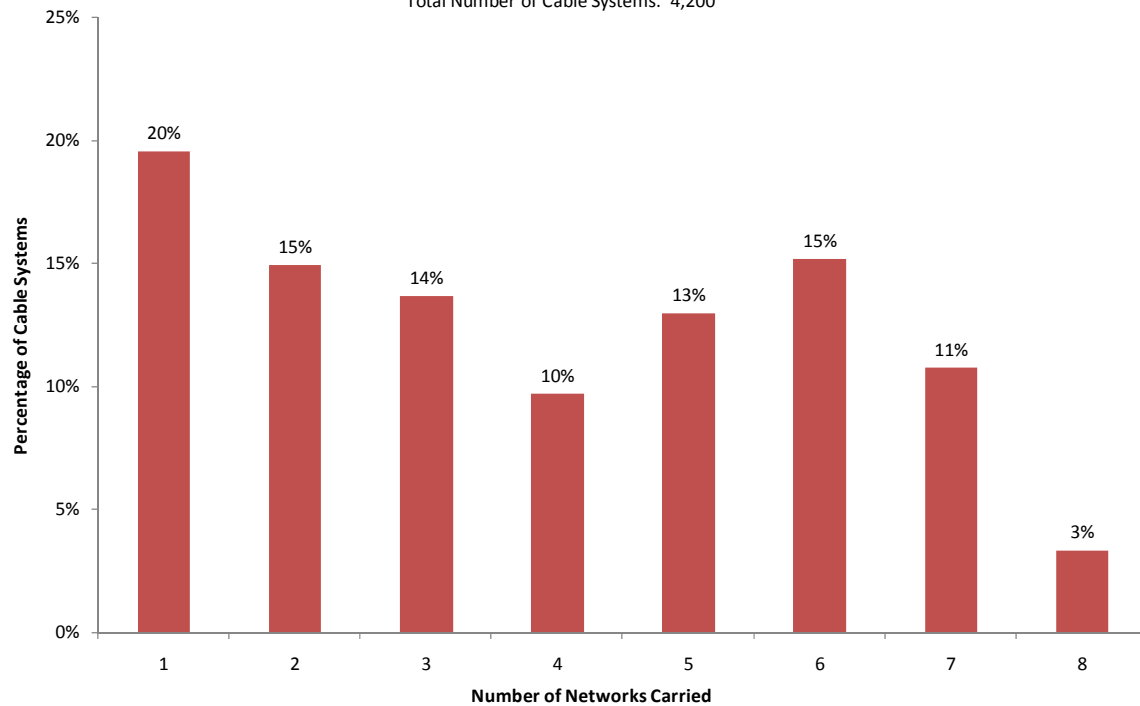
¹¹ The largest 25 MSOs and their total subscriber counts are available from the NCTA (citing Kagan data) at <http://www.ncta.com/ContentView.aspx?contentId=73> (visited November 15, 2007). The MSOs eliminated from the analysis in Figures 5 and 6 are Comcast, Time Warner, Cox, Charter, Cablevision, Bright House, Suddenlink, Mediacom, Insight and CableOne.

same networks. For instance, systems taking four Fox networks carried 29 different combinations of networks, and no combination accounted for as many as half the systems. See Appendix 2. Figure 6 shows that none of the Fox networks included in this analysis is carried by all the small operators' cable systems.

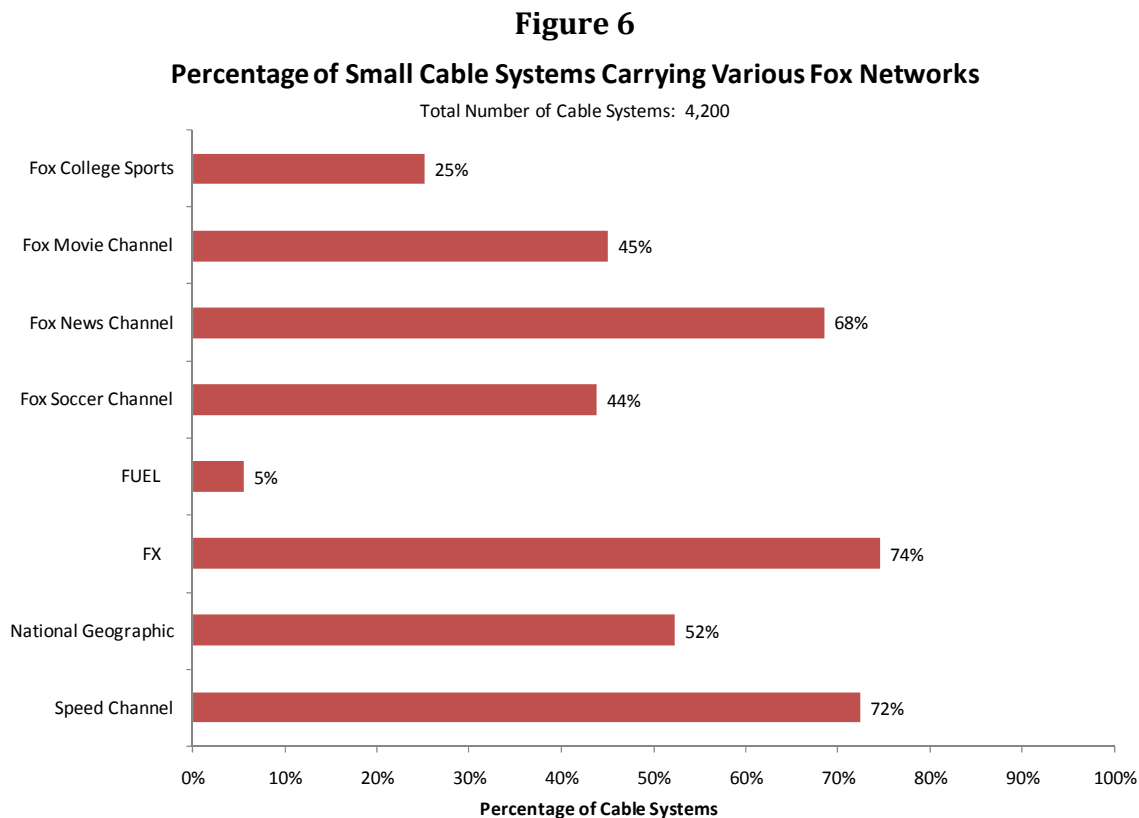
Figure 5

Small Cable Systems Do Not Purchase Fixed Bundles of Fox Networks

Total Number of Cable Systems: 4,200



Source: Fox.



Source: Fox.

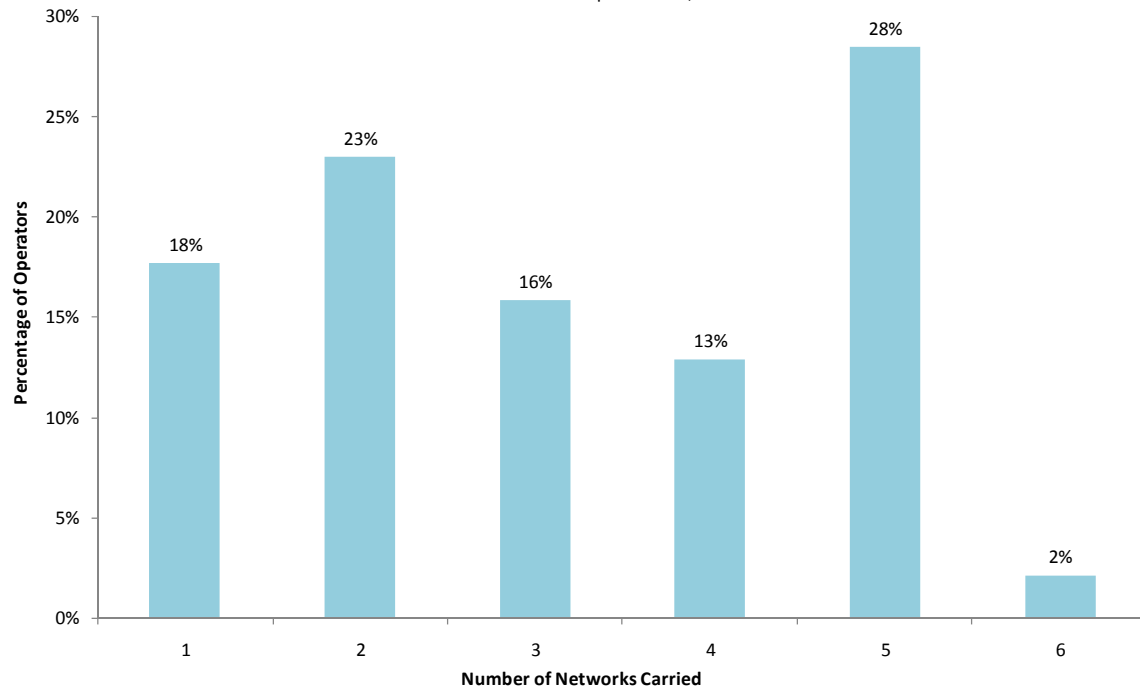
NBCU does not maintain data in a form such that *system*-level carriage information could readily be extracted for a large number of systems. Instead, I analyzed data supplied by NBCU showing each cable *operator* (including MSOs) taking any NBCU network on any of its systems and specifying which networks were carried. Data on six NBCU networks were included.¹² Figure 7 shows that more than one in six operators taking any NBCU network takes only a single NBCU network. Only 2 percent of the operators took all six of the networks studied. Figure 8 shows that no network was carried by all the operators, and that one network (CNBC World) was carried by only a small percentage of operators. These data support NBCU's representation that operators negotiate with respect to the networks they wish to carry and are not required to take networks they do not wish to take.

¹² The six networks studied were Bravo, CNBC, CNBC World, MSNBC, Sci Fi Channel and USA.

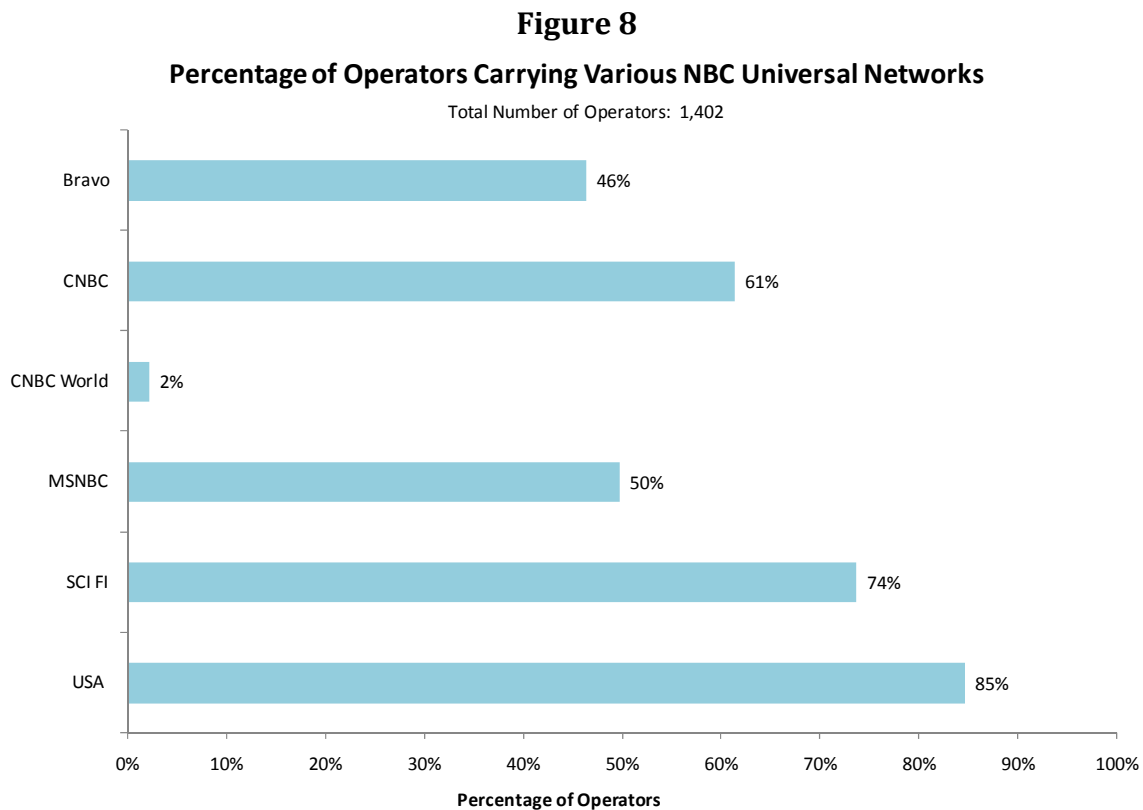
Figure 7

Cable Operators Do Not Purchase Fixed Bundles of NBC Universal Networks

Total Number of Operators: 1,402



Source: NBC Universal.



Source: NBC Universal.

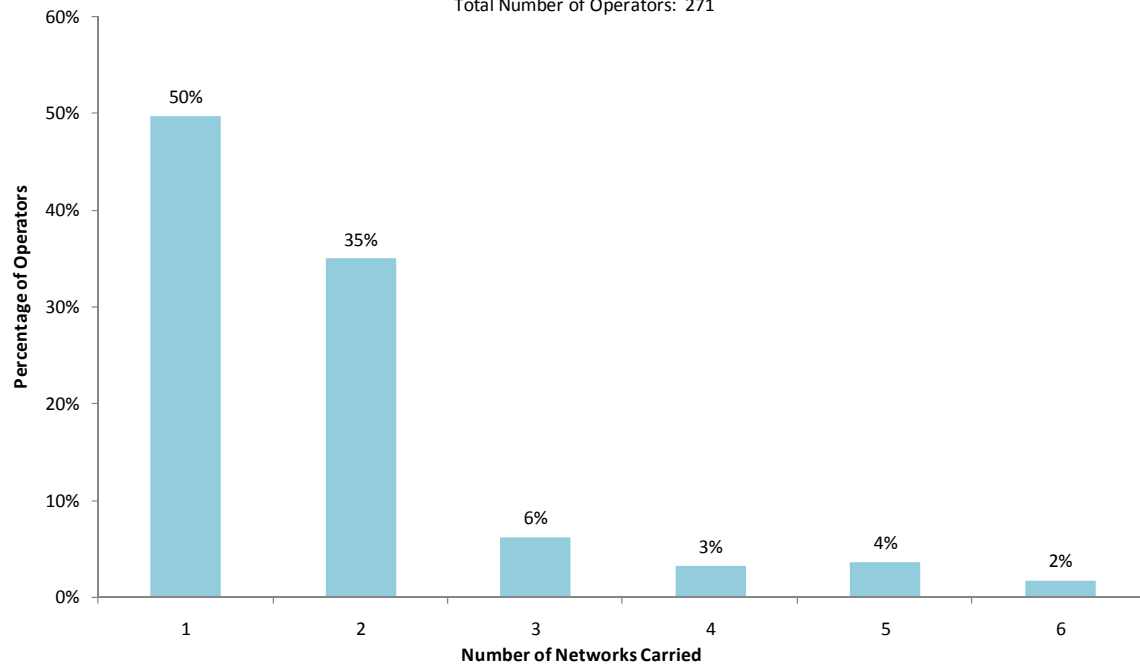
Again, because the NPRM focuses particularly on small MVPDs, I repeated the analysis of NBCU networks reflected in Figures 7 and 8, restricting the data to include only 271 small cable operators that carry at least one NBCU network but that do not contract for any NBCU networks through NCTC.¹³ As shown in Figure 9, it is uncommon for any of these operators to take more than one or two of the six NBCU networks studied. Almost 50 percent take only one network and an additional 35 percent only take two. Figure 10 shows that none of the NBCU networks included in this analysis is carried by all of these operators, with the highest carriage rate being slightly under sixty percent for the USA network. Further, when operators carry multiple NBCU networks they do not all take the same NBCU networks. For instance, among operators taking three NBCU networks there were seven different combinations of networks, and no combination was carried by as many as half the operators. See Appendix 2.

¹³ Figures 9-10 use the FCC definition of “small cable system;” see n. 10 supra. The NBCU data in Figures 7-10 are organized by operator.

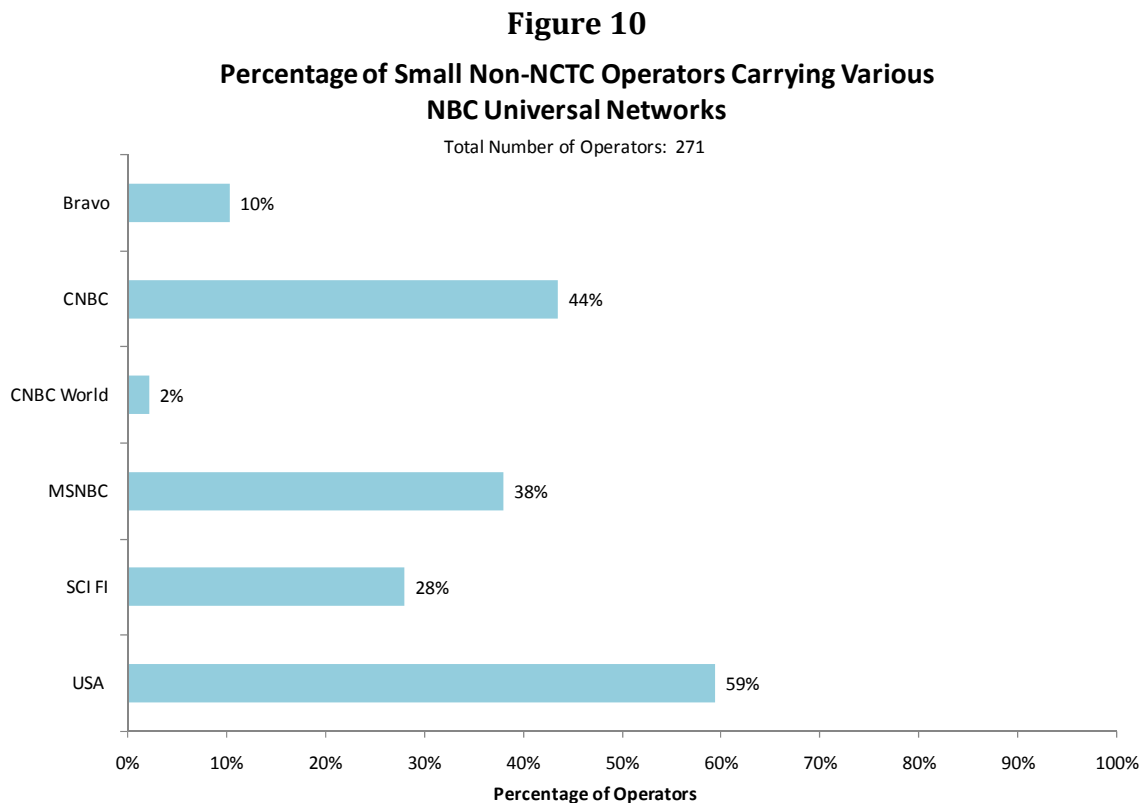
Figure 9

**Small Non-NCTC Cable Operators Do Not Purchase Fixed Bundles of
NBC Universal Networks**

Total Number of Operators: 271



Source: NBC Universal.



Source: NBC Universal.

I had direct access to carriage data only for Fox, NBCU and Viacom. However, Warren Communications maintains data on the networks carried by a large number of cable systems. I performed analyses similar to those described above for 14 different network suppliers.¹⁴ The number of networks included in the study is shown for each supplier in Figure 11. For each programmer, I determined how many of its networks were carried by each cable system. For each programmer, I then analyzed all systems carrying any of the programmer's networks and computed the percentage of those

¹⁴ Networks included in the analysis are shown in Appendix 1. As explained above, the objective was to include basic networks distributed nationally and launched before 2004. Spanish-language networks offered by programmers also offering English-language networks were excluded. Note that networks in digital suites offered by Viacom and Discovery were excluded because the Warren Publishing data do not reliably show how many networks within these suites were carried by individual systems. Channels appearing in the Warren Publishing data but which no longer exist were excluded. HD networks offering substantially the same programming as standard definition networks were not counted separately.

systems carrying 25 percent or more, half or more, 75 percent or more, and all of that supplier's networks.

Figure 11: Percentage of all cable systems carrying at least one-quarter, half, three-quarters, or all the basic cable networks, by program provider

	Networks included	25% or more	50% or more	75% or more	All
A&E	4	100%	81%	49%	46%
Cablevision	4	100%	66%	51%	28%
Comcast	6	86%	78%	44%	11%
Discovery	9	64%	7%	1%	0%
Disney	11	92%	56%	31%	4%
E.W. Scripps Co.	6	74%	45%	12%	1%
Fox	9	77%	53%	18%	0%
Liberty Media	6	69%	45%	4%	1%
NBC Universal	7	79%	49%	20%	4%
The Media Group	3	100%	32%	23%	23%
Time Warner	9	95%	66%	33%	2%
Trinity Broadcast. Net.	3	100%	1%	0%	0%
Univision	4	100%	16%	1%	0%
Viacom	10	85%	66%	30%	4%

Note: Each line includes only those systems carrying at least one of that supplier's networks.

Sources: Broadcasting & Cable, NCTA, FCC, SNL Kagan, Warren Communications News.

Figure 11 shows that it is relatively uncommon for cable systems to carry all the networks offered by a programmer. The highest percentage of systems taking all the networks from a programmer was for the four channels (A&E, Biography, History, and History International) offered by A&E, a Disney-Hearst-NBC joint venture, where it reached only 46 percent. With the exception of Cablevision's four networks (at 51 percent), no programmer had as much as half of its cable system affiliates carrying as many as 75 percent of its networks. Put another way, half or more of systems carried less than 75 percent of the networks of any given programmer. Figure 11 is striking evidence that programmers do not make "take-it-or-leave-it" offers requiring cable systems to take all or none of their networks.

Figure 11 also shows that programmers sell their networks in many different combinations and on a stand-alone basis. Take as an example Fox, which owns nine networks included in the study. Of sample systems carrying any Fox network, 77 percent carried three or more Fox networks (25 percent of the networks), 53 percent carried half or more of the Fox networks, 18 percent carried seven or more of the Fox networks, and none carried all the Fox networks. A similar pattern holds for the other

programmers. For each of the programmers in Figure 11, some systems carried only one network included in the study.

This pattern understates the diversity of purchased “bundles,” because systems that carried the same number of networks from a particular programmer do not necessarily take the same networks. I will use Fox networks to illustrate this point. I examined the systems taking four Fox networks to see what combinations of networks made up the four that were carried. All 12 Fox networks were found in one or more of the 4-network “bundles.”

Figure 12 uses the Warren Communications data again, but excludes the operators with 400,000 or more subscribers in order to focus on “small” operators. Figure 12 shows, of the small systems taking any networks from a given supplier, what portion take 25 percent or more of that supplier’s networks, etc. Among small operators’ systems, it is even more uncommon for a system to carry all of the networks offered by a programmer than for larger cable operators. Aside from A&E (33 percent) and Cablevision (17 percent), no programmer has all its networks carried by as many as 5 percent of small operators’ systems.

Figure 12: Percentage of small cable systems carrying at least one-quarter, half, three-quarters, or all the basic cable networks, by program provider

	Networks included	25% or more	50% or more	75% or more	All
A&E	4	100%	73%	36%	33%
Cablevision	4	100%	54%	36%	17%
Comcast	6	77%	68%	26%	4%
Discovery	9	50%	4%	0%	0%
Disney	11	87%	40%	18%	1%
E.W. Scripps Co.	6	65%	34%	5%	0%
Fox	9	68%	41%	10%	0%
Liberty Media	6	55%	27%	0%	0%
NBC Universal	7	70%	30%	4%	0%
The Media Group	3	100%	8%	0%	0%
Time Warner	9	93%	54%	18%	1%
Trinity Broadcast. Net.	3	100%	2%	1%	1%
Univision	4	100%	21%	3%	0%
Viacom	10	78%	51%	13%	0%

Note: Each line includes only those systems carrying at least one of that supplier’s networks. Uses FCC definition of small cable system.

Sources: Broadcasting & Cable, NCTA, FCC, SNL Kagan, Warren Communications News.

It might be argued that the only reason that some systems do not take all the networks sold by a programming group is that these systems do not have sufficient channel capacity to accommodate them. To test this argument, I performed the same analysis on systems owned by “small” operators, but restricted the analysis to systems that offer a digital tier and receive at least 60 satellite-delivered networks according to Warren Communications. See Figure 13. Not surprisingly, these high-capacity systems tend to take a larger percentage of programmers’ offerings. Even so, there was only one programmer from which over 50 percent of these systems took all the networks. With the exception of two programmers, over two-thirds of these cable systems took less than 75 percent of the networks.

Figure 13: Percentage of small cable systems carrying at least one-quarter, half, three-quarters, or all the basic cable networks, by program provider

Limited to systems with digital capability and at least 60 satellite-delivered channels

	Networks Included	25% or more	50% or more	75% or more	All
A&E	4	100%	100%	90%	86%
Cablevision	4	100%	93%	75%	38%
Comcast	6	99%	98%	48%	8%
Discovery	9	97%	14%	2%	0%
Disney	11	100%	99%	64%	4%
E.W. Scripps Co.	6	91%	64%	12%	1%
Fox	9	98%	80%	23%	0%
Liberty Media	6	96%	64%	0%	0%
NBC Universal	7	99%	83%	16%	1%
The Media Group	3	100%	14%	0%	0%
Time Warner	9	100%	98%	58%	3%
Trinity Broadcast. Net.	3	100%	4%	2%	2%
Univision	4	100%	23%	3%	0%
Viacom	10	98%	95%	45%	1%

Note: Each line includes only those systems carrying at least one of that supplier’s networks. Uses FCC definition of small cable system.

Sources: Broadcasting & Cable, NCTA, FCC, SNL Kagan, Warren Communications News.

Small operators’ systems with substantial channel capacity likewise show a lot of diversity in their carriage patterns. I conclude that the diversity of carriage patterns among small operators is consistent with the conclusion that wholesalers do not engage in “all or nothing tying.”

In summary, the evidence here supports the statements made by Fox, NBCU and Viacom that they do not offer MVPDs bundles of networks on a “take-it-or-leave-it” basis. There is no evidence here that MVPDs are unable to purchase individual networks or a variety of network combinations. I also find that the number and mix of networks that cable systems purchase differ considerably across systems. This is evidence that the other programmers studied do not require MVPDs to purchase a particular combination of networks.

III. Program suppliers lack market power

The industry that supplies programming services at wholesale to MVPDs has a competitive structure. There is consensus within an enormous body of legal and economic policy analysis that a regulatory intervention aimed at correcting a potential market failure (in this case, a potentially inefficient vertical restraint or marketing practice) is misguided when sellers lack market power. While antitrust analysis certainly is fallible and sometimes controversial, antitrust courts and scholars have far more experience dealing with “tying” and “bundling” than does the Commission. The Commission lacks sound reasons to reject this learning. Equally significant, perhaps, is the Commission’s use of emotive language to imply the existence of market power where there is none. In a business where market power is absent, customers cannot be “coerced” or “forced” by a supplier to purchase anything, or things in any form. The transactions that do take place are voluntary, not coercive. The basis for this contention is the decades-long academic and judicial examination of the behavior of firms in an antitrust context, where there are more meaningful and relatively objective definitions of “coercive” and like economic behavior.

As I noted above, a necessary (but not sufficient) condition in antitrust analysis for bundling to be regarded as potentially harmful to consumer welfare is that the seller have “market power,” usually defined in terms of market share. No supplier of wholesale video programming to MVPDs has as much as 25 percent of that business. There is ample evidence of entry and exit from the business. Even if video programming supplied to MVPDs is not too narrow to be a “market” in the antitrust sense, this business lacks a necessary condition for there to be a likelihood that its marketing practices are harmful to economic efficiency and consumer welfare.¹⁵ Programming is

¹⁵ Video content not currently purchased by MVPDs, as well as content in other than standard video formats, may belong in the same relevant market as video programming content purchased by continued ...

sold to MVPDs by a large number of firms, none of which has a large share. Figure 14 summarizes share information for eight programmers.¹⁶ Appendix 3 presents data for individual networks from which Figure 14 is drawn.

Figure 14: Measures of share and concentration in the sale of video programming networks

Programmer	Share of Networks	Share of Subscribers	Share of Full Day Audience	Share of Prime Time Audience	Share of Revenue
Viacom	8.0%	14.0%	20.0%	17.2%	17.9%
Disney	4.7%	10.5%	18.2%	19.2%	23.3%
Discovery	4.7%	7.7%	6.5%	6.8%	5.2%
NBC Universal	4.0%	7.6%	9.8%	11.3%	9.4%
Time Warner	4.0%	7.3%	16.5%	16.2%	14.2%
Fox	4.0%	6.9%	6.5%	7.0%	12.2%
Liberty Media	4.0%	2.3%	1.3%	1.1%	0.4%
The Media Group	3.7%	1.4%	0.0%	0.0%	0.1%
HHI	235	619	1,260	1,223	1,372

Sources: Appendix 3, SNL Kagan.

A simple way to illustrate the relatively small size of competing programming companies is to count the number of networks each sells. Drawing on the Commission's Twelfth Annual report on competition in the delivery of video programming and other sources, I identified 301 basic national programming networks now being carried by MVPDs. Viacom, the programmer with the largest number of networks, has only 24 networks or about 8 percent of the total.

This simple count of networks does not reflect that some networks are larger than others. Three other ways to measure network size are the number of subscribers, the average number of viewers, and network revenues. Shares for each programmer are presented in Figure 14 based on the networks they own. None of these measures indicates that any programmer has as much as 25 percent of programming sales.¹⁷

MVPDs, because it is possible that MVPDs could and would substitute some such content in the event that video prices increased.

¹⁶ I included all currently-available nationally-distributed cable networks for which suitable data were available. The list of networks was not restricted as was the case for Figures 1-13.

¹⁷ Note that even the low shares in Figure 14 tend to be overstated. Audience and revenue data were not available for all basic cable networks, particularly among the networks not owned by the programmers in Figure 14. Audience information was available for 43 percent of the basic networks continued ...

None has a share that is even close to the levels that are commonly associated with market power.

The last row in Figure 14 reports the Herfindahl-Hirshman Index (HHI) associated with each of these measures.¹⁸ HHI is often used as a summary measure of the degree of concentration among sellers. The highest degree of concentration—one single seller—would have an HHI of 10,000. In their Horizontal Merger Guidelines, the U.S. Department of Justice and Federal Trade Commission characterize industries with HHIs below 1,000 as unconcentrated and those with HHIs between 1,000 and 1,800 as moderately concentrated.¹⁹ Using this standard, concentration in video programming networks measured with the number of networks or with subscribers would be considered to be unconcentrated. If measured using revenue or viewers, the sale of video programming networks would be in the middle to low end of the moderately concentrated range. These measures probably exaggerate the degree of concentration because they exclude video content not currently purchased by MVPDs—such as the growing body of broadband video content on platforms such as YouTube and other Internet providers of video. Nevertheless, each of these measures shows an industry structure consistent with a high degree of competition.

Another feature indicating the competitive nature of video programming network sales is the frequency with which new programmers enter and new networks are introduced. Figure 15 shows the number of currently offered networks that were introduced in each year, 2000-2007. A total of 134 new networks were identified as introduced in this period, accounting for 45 percent of the total 301 available networks identified. Of the 134 new networks, 69 were introduced by “unaffiliated” programmers, i.e., programmers with no other networks. (Again, this does not take into account new Internet or other non-traditional sources of video programming.) Figure

owned by the programmers in Figure 14 but only for 12 percent of the networks outside this group. This means that a disproportionate number of the networks not owned by a programmer in Figure 14 were implicitly counted as zero. Similarly, revenue estimates were available for 80 percent of the networks owned by a programmer in Figure 14 but only 39 percent of the networks outside this group.

¹⁸ HHI is calculated by squaring the share of each firm and then summing the squared shares. For instance, for firms with shares of 40, 30, 20 and 10 percent, respectively, the HHI would be $(1,600 + 900 + 400 + 100) = 3,000$.

¹⁹ U.S. Department of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines*, (revised April 8, 1997), Section 1.5.

15 demonstrates that there is active entry of new providers into video programming network sales and active expansion of the number and variety of networks offered to MVPDs.

Figure 15: Launches of video programming networks by unaffiliated and other programmers, 2000-2007

Year launched	Unaffiliated programmers	Other programmers	Total
2000	8	2	10
2001	5	10	15
2002	4	13	17
2003	15	8	23
2004	18	12	30
2005	10	15	25
2006	8	3	11
2007	1	2	3
Total Channels Launched	69	65	134

Note: Unaffiliated programmers are those which currently own only one network.

Source: Appendix 3.

The effects of competition on the price of goods or services in a market are widely acknowledged. Outside of a small (and shrinking) number of industries, in the U.S. economy, competition is relied upon to see that customers receive the products, quality, price and terms they desire, consistent with the costs of the firms that supply them. Where competition is present, any firm that might attempt to charge a price that is higher than the quality of its products warrants would find that its customers turn to alternative products supplied by rival firms. Such price increases are not attempted (or soon abandoned) because competition makes them unprofitable.

Competition imposes the same kind of discipline on all aspects of what firms bring to the market. Competition forces firms to provide quality that will attract customers who would otherwise purchase from rivals. Another dimension of competition is the terms on which products are sold. When competition is present, a firm is constrained not to require terms of sale that purchasers do not like, because other firms are free to attract customers by offering terms of sale that are more attractive to purchasers.

The marketplace in which video programmers attempt to sell their programming to MVPDs is highly competitive. Given the intense competition among video programmers seeking carriage from MVPDs—and the obvious self-interest of such programmers in obtaining carriage—there is no apparent reason for the Commission to depart from a market solution in the sale of video programming networks.

IV. The concept of “must have” programming is misleading and inaccurate

In addition to alleged tying of networks in negotiations with MVPDs for carriage, the Commission affirms its belief in “must have” networks. (NPRM, ¶ 38). When discussing the sale of video programming in bundles, the Commission refers only to “desirable or marquee” channels. Nonetheless, the Commission may believe, erroneously, that programmers use “must have” programming to induce MVPDs to carry unwanted programming. This concept is not useful—indeed, it is misleading—in understanding the sale of cable programming.

Effective competition is not like golf, where poor players get handicaps. The Commission’s finding that “must have” programming is “essential” for viable competition among MVPDs is based on no appropriate empirical evidence or economic analysis, and it defies common sense. Few if any MVPDs are likely to go out of business as effective competitors for lack of a particular network; instead, they will simply adjust other programming choices, prices, and marketing strategy. Effective competition is a *process* that benefits consumers as firms struggle to gain advantages over one another, not a welfare program to produce equality of outcomes among the competing firms. A “marquee” or “must have” network, as that term appears to be used, is simply a network that makes an MVPD more profitable than otherwise, given its other carriage choices and the price it would like to pay for the network. It is quite unlikely that the second-most-profitable set of carriage and pricing decisions is strikingly less profitable.

Much of the Commission’s discussion of “must have” programming centers on whether or not, from the standpoint of a consumer, two networks would be considered close substitutes. One can easily imagine a consumer who prefers to watch only a single channel within a specialized programming niche and may find no other channel to be a satisfactory substitute. However, saying that a subscriber may not have a suitable substitute for a particular network is quite a different matter than saying an MVPD does not have a suitable substitute for a network or that an MVPD cannot compete without a particular network.

Most households watch multiple video programming channels. It seems implausible that the loss of a single channel that is part of a multi-channel line-up would make an MVPD completely undesirable to a large number of consumers. Even if that were the case, the MVPD has an opportunity to add alternative programming in place of the network that was dropped. It does not matter whether or not this alternative programming is a “close substitute” that will attract the same subscribers who were in-

clined to leave. The MVPD is just as well off having new subscribers who are attracted by the alternative programming or by the lower subscription fees that the MVPD is able to offer by eliminating the programming fee to the dropped network.

The Commission's bizarre notion of what might constitute a "must have" network—one that offers "The Sopranos"—would make virtually every differentiated product in the economy a "must have" essential facility:

We doubt, for example, that fans of one of the most popular cable programs, such as HBO's "The Sopranos," had their competitive MVPD been denied access to the cable-affiliated HBO network, would have regarded the original programming on other premium networks, such as Showtime, an adequate substitute for their favorite show. ...We find that access to this non-substitutable programming is necessary for competition in the video distribution market to remain viable. (NPRM, ¶¶ 38-39)

It is true that "The Sopranos" had some of the highest ratings on cable television—averaging over 8 million viewers, for example, during its 2007 season.²⁰ The finale of the series, with 11.9 million viewers or roughly 10 percent of the total US television households, got higher ratings than most broadcast network programs that week. However, all that means is that more than 90 percent of the television audience, and over two-thirds of those who subscribe to HBO, did *not* watch "The Sopranos." For the week of April 9, 2007, "The Sopranos" was the highest rated show on cable with 7.42 million viewers. The *second* and *third* most popular shows were episodes of "Sponge-Bob" on Nickelodeon and "WWE Raw" on USA, with 5.9 million and 5.7 million viewers, respectively. The next three most popular were episodes of "Charm School," "I Love New York – Reunion," both on VH1, and another episode of "WWE Raw," each with about 5 million viewers.²¹ Literally hundreds of other shows had ratings too small to measure accurately.

The programming available to an MVPD is best viewed as a continuum running from most effective to least effective in attracting subscribers, per dollar of expenditure by the MVPD at prevailing prices. Each programmer has channels that are currently highly desired and other programming that is less highly desired by MVPDs. This de-

²⁰ *Mediaweek*, "The Programming Insider," June 13, 2007, viewed at http://www.mediaweek.com/mw/search/article_display.jsp?vnu_content_id=1003598083.

²¹ *Mediaweek*, "The Programming Insider," April 19, 2007, viewed at http://www.mediaweek.com/mw/search/article_display.jsp?vnu_content_id=1003573870.

sirable programming has a place in the continuum, but is substitutable with other programming of similar effectiveness. None of these desirable networks constitutes a separate relevant market (to use an antitrust concept) because MVPDs can substitute other programming of lesser effectiveness in attracting subscribers, adjusting their own prices accordingly, and this serves as a competitive constraint on the price that can be charged for the most desirable programming.

None of the cable networks that might be classified as especially “desirable” has a substantial share of viewing. See Figure 16. No basic cable network is viewed by as much as 2 percent of households with televisions. It is hard to believe that if an MVPD decided not to carry one or more of these “desirable” networks, its subscribers would stampede for the exits.

Figure 16: Prime time ratings of most viewed broadcast and cable networks, 2006-2007

Network Type	Network	HH Rating
Broadcast	CBS	6.90
Broadcast	FOX	5.50
Broadcast	ABC	5.40
Broadcast	NBC	5.10
Broadcast	Univision	1.90
Broadcast	CW	1.80
Cable	Disney	1.79
Cable	USA	1.76
Cable	TNT	1.52
Cable	ESPN	1.39
Cable	Adult Swim	1.29
Cable	Nickelodeon/Nick at Nite	1.24
Cable	TBS	1.12
Cable	Lifetime	1.07
Cable	Fox News	1.03

Source: Appendix 3.

By way of empirical analysis of the issue, the Commission offers an econometric study of the effect of exclusivity in the licensing of regional sports networks to independent MVPDs in two cities. The study has been criticized by others on methodological grounds, but the major drawback of the study is that it does not offer a test of the correct hypothesis. The question examined (whether not having a particular RSN reduces market share) is quite different from the question whether RSNs or any other programming is essential. The issue is whether competitors can *compete*, not whether they can get the same market share. The DBS providers that are the subject of the study did not go out of business.

The Commission's mistaken view of "must have" programming may be coloring its consideration of alleged tying in the sale of programming to MVPDs. The Commission may believe that a programmer with "must have" networks would threaten to deny such networks to MVPDs that do not agree to take other, less desirable, networks. Even if there were a network so unique in attracting subscribers that an MVPD without it would have to charge much lower prices and earn substantially lower profits, the implication simply is that the programmer would be able to command a high price for the network. If such a programmer wanted to require an MVPD to carry less desirable networks as a condition for carrying the unique network, it could do so only by charging a lower price for the unique programming (as a means of offsetting the perceived "negative value" of the additional networks). A programmer trying to induce MVPDs to carry less desirable networks could as easily do so by offering a discount (possibly even a negative effective price) on less desirable networks directly. Tying with a "must have" network would be pointless because there are other ways for programmers to achieve the same ends.

V. The welfare effects of bundling defy generalization

Before exploring the possible connection between wholesale and retail packaging, it is important to understand the economic analysis of product packaging, including bundling, nearly all of which is equally applicable to retail and wholesale packaging of video programming. Because I attach earlier papers describing this analysis as it applies in the retail context (see Attachments 1-5), I offer here only a brief summary of the chief economic principles. These are developed in greater detail in Appendix 4.

Bundling is extremely common, and by no means sinister. As the variety of applicable economic models suggests, bundling occurs for more than one reason. Not all these reasons are fully understood by economists. At a very fundamental level, bundling defines the boundary between what is, and what is not, a commercial product. I develop this idea at greater length below because any rule constraining bundling is, in effect, a rule defending the economic legitimacy of certain product definitions. Unfortunately, once a product is defined by a government decree, rather than by a competitive market outcome, it ceases to have any economic legitimacy—i.e., no longer is it presumptively efficient.

Most products are bundles. An automobile is typically sold as a bundle of components including the chassis, power train, steering, brakes, tires, etc. When retailers purchase a product with components that are *physically* connected together by the manufacturer, one would expect the retailer to sell its customers the same bundle that was

purchased from the manufacturer. However, when there is no physical connection among bundle components, there is no reason in general to expect a relationship between the form in which a retailer purchases products (individually or as a bundle) and how the retailer sells the products (individually or as a bundle).

A common form of bundling is a requirements agreement. A purchaser obtains favorable pricing from a supplier on the condition that the purchaser buy all of some class of products from that supplier. For example, a steel manufacturer may offer a lower price to a customer fabricating filing cabinets on the condition that the customer purchase all its steel from that steel manufacturer. In another form of requirements contract, a restaurant franchisee may agree to buy all of certain inputs from the franchisor. Each of these agreements can promote economic efficiency, and indeed is generally presumed to do so if the seller does not have market power. Even though the buyer purchases products in a bundle, however, the buyer does not necessarily sell bundled products to its customers. The firm fabricating file cabinets need not require that an office supply retailer purchase all its file cabinets from that fabricator. Similarly, a franchise restaurant will not require that its patrons purchase everything on its menu.

Looking downstream from firms that bundle illustrates that upstream bundling does not necessarily cause downstream bundling. A similar lesson can be drawn looking upstream from firms that bundle. There is no reason to suppose that a firm that sells its products as bundles purchased those products, or inputs to those products, in bundles. Returning to the examples cited above, one cannot infer that the steel manufacturer that chooses to offer requirements contracts to its customers purchased its inputs under requirements contracts. A restaurant franchisor requiring that franchisees purchase all of certain products from the franchisor probably obtained those products from multiple sources. In other words, there is no general rule that firms that sell bundles also purchase bundles, much less that such firms sell in bundles *because* they purchase bundles.

Perhaps the least intuitive lesson of the economic analysis of bundling is that it is possible to construct examples in which customers gain more from purchasing a bundle of goods than they would from buying the goods individually. There are many reasons why this may happen, related to the underlying basis for the decision to bundle. One simple reason is that it may be cheaper to produce and market a bundle than the individual components, which implies that the components will cost more, in the aggregate, than the price of the bundle. Given higher prices, customers will demand less. A second reason why this may happen is the effect of heterogeneity in the rela-

tive valuations of individual components by different customers, illustrated in Appendix 4.

Intuition can also lead one astray in another respect. As discussed later in this report, video products are supported both by customers (MVPDs or retail customers) and by advertisers. Any change that reduces audience penetration will reduce advertising revenue. That leads to a negative feedback effect on customer pricing and program quality expenditures, which further reduces advertising demand. To avoid this downward spiral, program suppliers typically offer lower per-subscriber prices from MVPDs willing to commit to carry programming to greater percentages of subscribers. The result may falsely *appear* to be an “all or nothing” bundle. But in fact, the (inaccurate) assumption that programmers engage in wholesale bundling does not imply anything about retail tiers.

The most common economic models of bundling explain bundling as a means for producers to sort out customers according to how much they value a product. These models have common characteristics—economic efficiency may either increase or decrease, and some customers may benefit, even when overall welfare decreases. As this characterization suggests, bundling tends to make some purchasers better off and some purchasers worse off.

Some models with particular assumptions can be used to show that purchasers as a whole are made better off by bundling than they would be with stand-alone pricing. Other models with other assumptions can be used to show the opposite. There is no obviously appropriate model that permits one to characterize the outcome for wholesale or retail video programming. Hence, the welfare effect is indeterminate. It follows that regulatory intervention is little more than a stab in the dark.

Applied to wholesale video programming, the economic learning suggests that pure wholesale bundling (assuming, contrary to the evidence, that it takes place!) makes some MVPDs better off and some worse off than if they were offered stand-alone pricing of the same networks, with no predictable overall effect on welfare. Further, in a market with stand-alone network marketing, the identity of the networks carried by an MVPD will not be the same as with pure bundling. This implies that the Commission’s economic regulation will distort programming content. If, as the Commission may believe, all MVPDs that are offered a package of networks on a “take-it-or-leave-it” basis accept the offer, then eliminating such offers could well cause the audience penetration of the average network to be lower, and hence reduce advertising revenue, and either the sum of the stand-alone prices of the current set of networks will

be higher than the corresponding bundle price, or program quality will be less, or both.

How does this affect retail customers? The effect of wholesale unbundling on consumers (again, assuming that bundling now takes place) is that their MVPDs will be offering different items in their tiers, possibly at different (aggregate) prices to reflect different wholesale programming costs and advertising revenues. As discussed in the next section, there is no reason to suppose that the extent of bundling at retail would change. In the end, some consumers would be worse off and others might be better off. To illustrate: Compare a \$20 bundle with 10 networks and an \$18 bundle with 9 networks. Those consumers who value the 10th network at more than \$2 are net worse off; those who value the 10th network at less than \$2 are net better off. Appendix 4 describes these possible outcomes in greater detail.

We simply don't have the facts needed to determine whether changes in the mix of networks in tiers will make consumers as a whole better off or worse off. Assuming the MVPD just stops purchasing some networks, which networks would no longer be purchased and included in the MVPD's bundle/tier; how much less would the MVPD pay for the programming; how much would the MVPD's retail price for the bundle/tier be reduced; and how would various consumers value the networks no longer included in the MVPD's bundle/tier? If the MVPD were to add other networks in place of the networks that were dropped when the programmer no longer offered a bundle, this would expand the number of unknowns.

Welfare analysis also requires knowing what types of individuals are harmed or benefited, because marginal changes may not have an equal value to all consumers. For example, if it turned out that relatively well-off people would benefit from an intervention that required stand-alone pricing by programmers, while less well-off families would fare better if their MVPDs purchased under pure bundling, the intervention would harm the poorest Americans. A more complete evaluation would have to take into account the appeal to poorer consumers of any networks that would or would not be carried by MVPDs because of a regulation on wholesale bundling. For all these reasons, the Commission cannot conclude that eliminating pure bundling in wholesale programming, assuming that it exists, would improve consumer welfare.

VI. Retail bundling is not caused by wholesale packaging

Retail packaging of video content into "tiers" has been the subject of much recent policy debate. Although the Commission does not say so, it may be that its otherwise

puzzling concern with wholesale packaging is related to the possibility that wholesale bundling (if it existed in the form the Commission describes) might be the cause of retail bundling. If so, the Commission is mistaken. Not only does “‘take-it-or-leave-it’ tying” not take place, but even if it did, its elimination would not force MVPDs to unbundle content in any particular way, or at all. Even if wholesale video offerings were bundled, contrary to the evidence, it would not be necessary to eliminate wholesale bundling to permit retail unbundling.

The practice of cable operators’ providing programming to subscribers on a bundled basis certainly did not arise as a result of purchasing networks as packages. Cable operators offered bundled service from the very beginning. Cable television got its start as an antenna service.²² Entrepreneurs erected large antennas in areas where home reception of over-the-air television broadcast signals was poor. The signal from this antenna was then delivered by cable to subscribers. Subscribers had available to them all the broadcast signals—a bundle. Over the course of time, non-broadcast programming emerged that cable operators could offer to their subscribers. Some of these networks were “premium” channels provided to subscribers on a stand-alone basis. Other networks were “basic” and were provided to all subscribers as part of a bundled service.

A look back at the basic cable networks available 25 years ago is instructive. *CableVision*, an industry publication, identified 31 basic satellite video programming services available in 1982.²³ In all but seven cases, each of these networks was owned by a programmer with no other basic network. The remaining seven networks were associated with three different ownership groups, each with two or three networks. Bundling of networks by programmers, if it existed at all, cannot have been a significant feature then. Yet cable operators of that era supplying basic networks to consumers offered them as part of a tier or bundle.

Knowing that MVPDs sell their programming as parts of tiers, programmers offer incentives to MVPDs to influence the MVPDs’ decision concerning tier placement. Other

²² See Robert W. Crandall and Harold Furchtgott-Roth, *Cable TV: Regulation or Competition* (Washington: The Brookings Institution, 1996), pp. 1-7; and Bruce M. Owen and Steven S. Wildman, *Video Economics* (Cambridge: Harvard University Press, 1992), pp. 211-218.

²³ These networks were identified in *CableVision*, November 22, 1982, p. 350. *CableVision*’s list of basic satellite-fed programming services included Electronic Program Guide (EPG), but EPG was not included in the count of 31 networks.

things being equal, a programmer prefers for MVPDs to place its networks on a tier where a larger number of subscribers can view its networks. Programmers typically obtain a large portion of their revenues from the sale of advertising. Hence, increasing the number of potential viewers and thereby the size of the audience that can be sold to advertisers is valuable to programmers. Based on interviews with Fox, NBCU and Viacom officials, I understand it to be common for programmers to offer reduced per-subscriber fees when the MVPD agrees to make a network available to a larger number of subscribers, such as by carrying a network on a tier that has more subscribers than an alternative tier.

It would be undesirable to write a contract between a program supplier and an MVPD that specified just the price but provided no assurance regarding the number of subscribers that would view the programming. If the Commission sought to prevent program suppliers and MVPDs from reaching agreements under which programming is carried to specific numbers or percentages of subscribers, the result would be to reduce programmers' advertising revenues and therefore either to increase the per-subscriber prices paid by MVPDs for content, or to reduce program quality, or both. Cable operators, like programmers, derive revenue both from content fees and from advertising, and the effects of regulation are harder to predict for "two-sided" services.²⁴

The mere existence of a single contract between a given buyer and seller covering multiple products obviously is not evidence of bundling. Imagine that the price and carriage commitment with respect to each product were separately negotiated. It would be sensible to then write a single contract, because the vast majority of the other terms would be identical. This contract might well specify a single price (or price per subscriber) covering all the networks being carried, because that could facilitate agreement even when the parties disagreed about the individual product prices.

²⁴ A two-sided service or market is one in which there are two kinds of customers, and demand by one type of customer is greater, the more demand there is of the other type. This is a generalization of the more familiar "network effects" phenomenon. The value of a network to a given user is greater, the greater the number of other users. In video programming, the demand by advertisers is higher, the greater the number of viewers. The demand by viewers is greater, the higher the quality of programming. The two demands are linked through expenditures on program quality, which are driven higher by competition for audiences among program suppliers.

Finally, and assuming *arguendo* that wholesale bundling existed, mandatory wholesale unbundling is unnecessary to permit retail unbundling. Suppliers care about penetration for the reasons discussed above, related to advertising revenue, and operators care because the lower the percentage of subscribers reached, the higher the price they can expect to pay per subscriber for the content, to offset the supplier's lost advertising revenue. Given the business considerations that lie behind currently negotiated network fees, suppliers would not be indifferent if operators proposed to pay network fees previously negotiated but provide a la carte audiences much smaller than the programmers anticipated. If one assumes that operators wanted to offer programming on an a la carte basis and that programmers and operators were to reach agreement on fees that reflect a la carte retail distribution, there is no reason why a supplier could not sell its networks as a package. For instance, the supplier could "require" that an operator offer all of the supplier's networks rather than just a few.

VII. Competitive stand-alone prices exceed competitive package prices

Given the presence already of what the economic literature calls "mixed bundling" (both packages and individual network sales) in the wholesale market, one potential source of buyer complaints is a perception on their parts that the sum of the prices at which they are offered individual networks compares unfavorably with the prices of various packages on offer. This perception, while understandable, betrays a fundamental misunderstanding of the video programming marketplace.

Program suppliers offer both established content with relatively high demand and newer or less popular content that requires additional penetration in order to succeed. The stand-alone competitive price for the new or less popular content may well be negative. In other words, the program supplier would be willing to pay the MVPD for higher penetration for certain channels, both because that lowers unit costs per viewer and because it increases advertising revenue. The payment to carry less desirable content may take the form of a price discount on the more popular content if the MVPD agrees to take both. As a result, the competitive price for a package of content may be less than the competitive price for a stand-alone unit of content—whether a popular program or a popular channel—by itself. This can lead to the erroneous conclusion that the supplier is "forcing" the buyer to carry the less popular network.

VIII. Regulation of “mixed bundle” packaging is impractical

Based on the evidence I have reviewed, Fox, NBCU and Viacom do not offer their networks in “take-it-or-leave-it” bundles. MVPDs are presented with alternative bundles and stand-alone prices for individual networks, and MVPDs can propose their own bundles.

If this is true for programmers generally—something I am not now in a position to confirm—then one wonders what it is that some small cable operators seemingly are complaining about. It is possible that the real complaint of these small operators is as follows: even though networks are offered individually and in various packages, one bundle is so much more desirable than the others that a rational MVPD effectively has only one reasonable choice. In other words, the competitive market prices of stand-alone networks and alternative bundles are so high that they do not provide any practical alternative to the bundle that the MVPD purchases.

If that is their complaint, my first response is that, generally speaking, in any business the price for a product bundle will be less than the sum of the stand-alone prices for the elements of the bundle, as explained above. Second, the behavior of other MVPDs strongly indicates that the prices of stand-alone networks and alternative bundles are not too high to be a realistic alternative. The evidence I have reviewed shows that many small operators purchase their networks using stand-alone prices.

The evidence presented in Section II demonstrates that different cable operators take different bundles of networks from the same program supplier. Among small operators, none takes all of Viacom’s programming and 11 percent take only one network. Among small operators taking NBCU programming outside of NCTC, half carried only one NBCU network, 85 percent carried one or two NBCU networks, and only 2 percent carried all six NBCU networks studied. Similar patterns hold for Fox and other programmers as well. See Figures 1-13. Apparently, there are many combinations of networks that various small operators find attractive.

If the Commission were to take seriously a complaint that stand-alone prices to MVPDs are too high to provide a real alternative, the Commission would be required to determine when rates are “too high” for every cable network at issue, including any change in pricing with regard to such variables as transmission quality, channel placement, minimum subscriber guarantees, and the like. Suppose that the Commission sought to achieve an outcome in which every “small” cable operator was presented with a set of “reasonably priced” a la carte alternatives to packaged video pro-

gramming options. The Commission could not expect such a regulation to be self-enforcing. Disputes would arise. Predictably, some operators would claim that some particular network was “unreasonably” overpriced. The Commission would have to assure itself that any proposed lower package price was compensatory and that the stand-alone prices represented realistic alternatives on a case-by-case basis, taking into account the many variables involved in any carriage negotiation between a programmer and an MVPD. Neither the traditional tools of utility regulation nor more modern tools such as rate caps offers a practical solution to such disputes.

A particular problem in establishing “reasonable” stand-alone network prices would be the difficulty of determining cost. Video programming is largely non-rivalrous. Put differently, virtually all production and many distribution costs are joint and common with respect to individual customers. The Commission would have to develop a set of rules for the allocation of common costs to particular customers. Economically sound rules would result in different prices for each network to each customer, related to that customer's elasticity of demand for each network. Pricing would also have to take into account the feedback effect of distribution on advertising revenues. Clearly, this would be an unworkable regulatory scheme.

IX. There are no “bright lines” separating video package components

All video products are packages, or packages of packages. This simple fact undermines the conceptual basis of any proposal to regulate packaging or bundling. Regulating the extent of packaging necessarily implies that the Commission can reasonably determine the “legitimate” economic boundaries of the regulated services. But the Commission lacks a foundation for establishing such boundaries, especially for the range of services called video programming.

The most basic component of video programming service is an apparently unitary but highly variable bundle of services called by such names as episode, segment, special, game or movie. Such a basic unit itself is not well-defined, made up of varying proportions of other services, such as content, promotion, and embedded advertising. But very few wholesale video programming transactions involve even such relatively basic units. Video programming is instead almost always packaged when it is sold to retail distributors. For example, episodes are bundled into series. Series are bundled

into daily, weekly, and seasonal schedules, or channels. Channels, or networks, are packaged into multichannel groups.²⁵

Further, each basic unit of programming, if one can be said to exist, is also a bundle of services available through time and space. The dimensions of time and space are manifested in the concepts of distribution windows, releases, and runs, and of distribution territories. The shapes and boundaries of all these bundles are fluid. They vary in response to the economics of production and distribution, the circumstances of changing supply and demand. Economies of scope and scale in production and marketing, for example, promote bundling of episodes into series or encourage continuing daily programs, such as newscasts.

It is reasonable for a buyer to prefer to negotiate a single price for a package of video programming, rather than to negotiate for individual units at a lower degree of aggregation, for several reasons, not least being the savings in negotiation costs. For example, potential savings in transaction and search costs, as well as risk management, encourage some buyers to favor package purchases over episode-by-episode purchases. As economic circumstances, market prices, and technologies change, the boundaries of efficient packages also change. For example, television advertisers once purchased sponsorships of particular program series. That is unusual today. Advertisers found that it was less risky to purchase exposure on a portfolio of programs, and suppliers accommodated this demand. In other mass media—newspapers, for example—products corresponding to multichannel bundles without stand-alone or a la carte options are common. One could think of newspaper sections as the World News channel, the Local News channel, the Business channel, the Style channel and the Sports channel. The point is not that one such characterization is correct; instead, defining the product in any particular way is arbitrary.

Similarly, to the extent the Commission seeks, through the present proposal, to constrain retail bundling of programming in the hope of allowing subscribers to avoid

²⁵ Indeed, of all the bundles in which programming is commonly sold, the one least infused with “market outcome” economic legitimacy is the channel or network. This familiar concept is a construct, not of markets, but of engineering assumptions made in the 1920s and frozen ever since in federal spectrum allocation decisions. Given the artificial origins of the single-frequency-through-time “unit” of service, there is no economic basis for an assumption that economic welfare is well-served by preserving the opportunity of retailers to purchase wholesale units of programming in this particular configuration, even if that option appeared to be threatened.

exposure to undesired programming, the dividing line between “networks” is not a useful focus. It is surely true already that most, perhaps all, individual networks contain *some* material that is disliked by *some* subscribers. If retail unbundling results in lower penetration rates for many channels, as seems likely, programmers will continue to seek out the largest potential audiences available to them. Programming decisions and patterns likely will change on all networks. It is entirely possible that the amount of “unwanted” programming on the surviving networks will increase, relative to their present offerings.

X. Regulation of packaging threatens other FCC objectives

Virtually all economists and economic models agree that bundling brings benefits to some customers, even in cases where other customers are worse off. But which ones? While the demand characteristics of the customers who gain or lose from bundling can be described in technical terms, it is seldom possible to identify those customers' other characteristics, such as their economic or social status. Even if the Commission were persuaded that aggregate consumer welfare would increase if bundling were restricted, the Commission would risk violating other policy objectives it favors.

At the retail level, for example, even if aggregate welfare were increased by mixed bundling, this would be achieved only by making some unknown group of viewers worse off. Before such a decision could be made, it is important for the Commission to assess the risk that the worse-off consumers may be those whom the Commission wishes to favor (the poor, the elderly, the young, or minority groups, for example). The Commission lacks information on such effects. Regulatory intervention at the wholesale level presents similar issues. First, the downstream effects on particular consumers are even more difficult to predict. Second, why should the Commission favor one set of “small” cable operators at the expense of other “small” cable operators?

XI. Packages often save time and money for small buyers

Even if program suppliers did offer “take-it-or-leave-it” packages to small cable operators, contrary to the representations of the suppliers, that could be an entirely normal and efficient competitive market outcome. In every industry, smaller customers have fewer choices than larger ones, because smaller buyers and sellers alike do not find it worthwhile to bear the considerable costs of bargaining over the details of complex transactions. To do so would simply increase the cost (and price) of the transaction, disadvantaging both buyer and seller. Negotiation and related costs tend

to be a larger percentage of small transactions than larger ones. In this circumstance, what may appear to be the exercise of market power is nothing but the commonplace phenomenon of small buyers being offered standardized products at list prices, while large customers and their suppliers find it worthwhile to negotiate off-list, non-standard deals. This is not economically inefficient, and it is almost certainly the way in which small operators purchase most of the inputs used in their businesses—from service vehicles to converter boxes to outside plant components. A regulation requiring individualized negotiation over arbitrarily-defined components of standard product bundles for all customers, regardless of size, likely would reduce welfare.

XII. Unintended side effects are a likely result of regulation

Unpredictable unintended side effects are a likely result of any packaging regulation the Commission might attempt. Viewer welfare is related not only to the quantity of programming, but also to its quality. Attractive programming costs more to produce than less attractive programming. Advertiser welfare is related to the size of the audience delivered by the programming. Advertising revenue, given competition, affects viewer welfare because competing programmers exhaust any disequilibrium rents in expenditures on increased program quality. The point of unbundling wholesale video programming, presumably, is to respond to the claim that “small” cable operators would be able to choose networks different from those they now carry, not merely to permit them to carry the same networks at a lower total price. But a change in the program choices of “small” operators will change the size of the audience for each affected network.

These changes, even though individually small, can have a magnified effect on program quality and quantity. In advertising markets even small differences in the sizes of audiences delivered by networks competing for similar audience segments can translate into large differences in advertising revenues. Large differences in advertising revenues imply large changes in program quality, a positive feedback, and changes in subscriber prices, where applicable. In the end, a regulation aimed at making (some) “small” cable operators better off at the expense of program suppliers is likely to have important and unpredictable positive and negative consequences for viewers everywhere. There is no basis to assume that these consequences, individually both positive and negative, add up to a net improvement in welfare, even if we weight every viewer equally. The point is not that the Commission should be required to understand and defend all the general equilibrium effects of its regulatory interventions. However, while it often is reasonable to assume that such effects are negligible, such effects are not *always* negligible, especially when, as here, there are reasons

to expect strong interactions with the interests of other consumers of services produced with common costs, and sold in complex two-sided markets.

Video programming provided to MVPDs frequently is also released in other distribution “windows.” For instance, programming for a cable series may subsequently be released on DVD for home entertainment use. Changes in programming quality will have effects on viewing and the demand for programs beyond what is provided to subscribers by MVPDs. Cable programmers also purchase inputs—e.g., television rights to movies, sporting events. Decreases in cable programming expenses could mean lower payments to such input suppliers.

Appendix 1: Networks Used for Carriage Analyses

Networks Used for Warren Carriage Analysis (Figs. 11, 12, 13)	Owner
A&E (Arts & Entertainment)	A&E
Biography Channel, The	A&E
History Channel	A&E
History International (aka History Channel International)	A&E
American Movie Classics (AMC)	Cablevision
fuse	Cablevision
Independent Film Channel (IFC), The	Cablevision
WE: Women's Entertainment	Cablevision
AZN Television (formerly International Channel Networks)	Comcast
E! Entertainment Television	Comcast
G4 VideogameTV (formerly G4 tech TV)	Comcast
Golf Channel, The	Comcast
Style Network, The	Comcast
Versus (formerly Outdoor Life Network - OLN)	Comcast
Animal Planet	Discovery
Discovery Channel	Discovery
Discovery HD Theatre	Discovery
Discovery Health Channel	Discovery
Discovery Kids Channel	Discovery
Discovery Times Channel	Discovery
FiT TV	Discovery
Learning Channel (TLC), The	Discovery
Military Channel	Discovery
ABC Family	Disney
Disney Channel	Disney
ESPN	Disney
ESPN Classic	Disney
ESPN2	Disney
ESPNEWS	Disney
Lifetime Movie Network	Disney
Lifetime Real Women	Disney
Lifetime Television	Disney
SOAPnet	Disney
Toon Disney	Disney
DIY (Do-It-Yourself Network)	E.W. Scripps Co.
Fine Living	E.W. Scripps Co.
Food Network	E.W. Scripps Co.
Great American Country (GAC)	E.W. Scripps Co.
Home & Garden Television (HGTV)	E.W. Scripps Co.
Shop At Home Network	E.W. Scripps Co.

Networks Used for Warren Carriage Analysis (Figs. 11, 12, 13)	Owner
Fox College Sports	Fox
FOX Movie Channel	Fox
FOX News Channel	Fox
Fox Soccer Channel (formerly Fox Sports World)	Fox
FSN (Fox Sports Net)	Fox
FUEL TV	Fox
FX	Fox
National Geographic Channel	Fox
SPEED Channel	Fox
America's Store	Liberty Media
Encore	Liberty Media
Game Show Network (GSN)	Liberty Media
Home Shopping Network (HSN)	Liberty Media
MoviePlex	Liberty Media
QVC	Liberty Media
Bravo	NBC Universal
CNBC	NBC Universal
CNBC World	NBC Universal
MSNBC	NBC Universal
Sci Fi Channel	NBC Universal
Sundance Channel	NBC Universal
USA Network	NBC Universal
Beauty & Fashion Channel	The Media Group
Healthy Living Channel	The Media Group
Men's Channel	The Media Group
Boomerang	Time Warner
Cartoon Network	Time Warner
CNN (Cable News Network)	Time Warner
CNN Headline News	Time Warner
CNN International	Time Warner
Court TV	Time Warner
TBS Superstation	Time Warner
TNT (Turner Network Television)	Time Warner
Turner Classic Movies (TCM)	Time Warner
Church Channel, The	Trinity Broadcasting Network
JCTV	Trinity Broadcasting Network
TBN - Trinity Broadcasting Network	Trinity Broadcasting Network
Bandamax	Univision
Galavisión	Univision
Telefutura	Univision
Univision	Univision

Networks Used for Warren Carriage Analysis (Figs. 11, 12, 13)	Owner
BET (Black Entertainment Television)	Viacom
BET J	Viacom
Comedy Central	Viacom
Country Music Television (CMT)	Viacom
MTV	Viacom
MTV 2	Viacom
Nickelodeon/Nick at Nite	Viacom
Spike TV	Viacom
TV Land	Viacom
VH1	Viacom

Sources: FCC, Twelfth Annual Report (released March 3, 2006); SNL Kagan, Economics of Basic Cable Networks, 2007 Edition; National Cable and Telecommunications Association (NCTA), <http://www.ncta.com>; Broadcasting & Cable, "Guide to Hispanic TV Networks," (Oct. 2007) <http://www.broadcastingcable.com>; Warren Communications News, Television & Cable Factbook, 2007 Edition; Fox; NBC Universal; Viacom.

Networks (18) used for Viacom analysis (Figs. 1, 2)

BET
BET J
CMT
CMT Pure Country
Comedy Central
MTV
MTV 2
MTV Hits
MTV Jams
Nickelodeon/Nick at Nite
Nickelodeon GAS
Nicktoons
Noggin
Spike TV
TV Land
VH1
VH1 Rock
VH1 Soul

Networks (8) used for Fox analysis (Figs. 3, 4, 5, 6)

Fox College Sports
Fox Movie Channel
Fox News Channel
Fox Soccer Channel
FUEL
FX
National Geographic
Speed Channel

Networks (6) used for NBCU analysis (Figs. 7, 8, 9, 10)

Bravo
CNBC
CNBC World*
MSNBC
Sci Fi Channel
USA Network

*CNBC World not used in “NCTC only” analysis

Appendix 2: Network Packages Carried by Small Systems and Operators Are Diverse

Viacom			
Networks carried	Systems	Unique network packages	Systems carrying most common package
1	23	5	11
2	39	11	14
3	39	7	15
4	38	12	16
5	22	10	7
6	14	7	7
7	20	5	15
8	1	1	1
9	2	2	1
11	1	1	1
13	1	1	1
14	1	1	1
15	3	3	1
16	1	1	1
Total	205	67	

Source: Viacom. **Note:** Includes small systems contracting directly with Viacom.

Fox

Networks carried	Systems	Unique network packages	Systems carrying most common package
1	821	6	312
2	626	16	176
3	574	23	250
4	407	29	144
5	545	19	182
6	636	13	307
7	451	6	398
8	140	1	140
Total	4200	113	

Source: Fox. **Note:** Includes small systems.

NBC Universal

Networks carried	Operators	Unique network packages	Operators carrying most common package
1	135	5	85
2	95	6	54
3	17	7	7
4	9	5	5
5	10	1	10
6	5	1	5
Total	271	25	

Source: NBC Universal. **Note:** Includes small, non-NCTC operators.

Appendix 3: Nationally Distributed Basic Cable Networks

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
29HD Network	2005	29 HD Network		
A&E (Arts & Entertainment)	1984	A&E	0.59	0.95
ABC Family	1977	Disney	0.45	0.73
Africa Channel, The	2005	Africa Channel, The		
American Movie Classics (AMC)	1984	Cablevision	0.4	0.71
AmericanLife TV (formerly Goodlife Television Network)	1985	Concept Communications		
America's Preview	2004	The Media Group		
America's Store	1986	Liberty Media		
Angel One		Dominion Video Satellite		
Angel Two		Dominion Video Satellite		
Animal Planet	1996	Discovery Holding Co.	0.22	0.39
Anime Network	2002	ADV Films		
Antena 3 International	1996	Antena 3 International		
Auction Network		Auction Network		
AYM Sports	2003	Digital Films		
AZN Television (formerly International Channel Networks)	1990	Comcast		
Azteca America	2004	TV Azteca		
BabyFirstTV	2006	Bellco-Regency		
Bandamax	2003	Univision		
BBC America	1998	BBC Worldwide	0.04	0.06
BBC World News	2006	BBC Worldwide		
Beauty & Fashion Channel	2001	The Media Group		
BET (Black Entertainment Television)	1980	Viacom	0.29	0.47
BET Gospel	2002	Viacom		
BET J	1996	Viacom		
Big Ten Network	2007	Big Ten Network		
Biography Channel, The	1998	A&E	0.07	0.1

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
Black Family Channel	1999	Programming Acquisitions LLC		
Blackbelt TV	2004	Threshold TV Inc.		
Bloomberg Television	1995	Bloomberg Media		
BlueHighways TV	2005	Network Creative Group LLC		
B-Mania	2000	B-Mania		
Boomerang	2000	Time Warner		
Bravo	1980	NBC Universal	0.22	0.42
Bridges TV	2004	Bridges TV		
BYU Television	2000	Church of Jesus Christ of Latter-Day Saints		
Canal 24 Horas	1999	Radio Television Española Internacional		
Canal 52 MX	2005	MVS Television		
Canal Sur	1991	SUR Corp.		
Caracol TV	2003	Caracol Television International Inc.		
Career Entertainment Television	2004	Career Entertainment Television		
Cartoon Network	1992	Time Warner	0.81	0.98
Casa Club TV	2003	MGM-Liberty Global		
Catalog TV		The Media Group		
CCTV-E&F	2004	China Central Television		
Celtic Vision	1995	Celtic Vision Productions Ltd.		
Centroamerica TV	2004	Centroamerica TV		
Chiller	2007	NBC Universal		
Church Channel, The	2002	Trinity Broadcasting Network		
Cine Latino	1994	MVS Television		
Cine Mexicano	2004	Cine Mexicano LLC		
Classic Arts Showcase	1994	Rigler-Deutsch Foundation		
CMT Pure Country (formerly VH1 Country)	1998	Viacom		
CNBC	1989	NBC Universal	0.16	0.16
CNBC World	1989	NBC Universal		
CNC Columbia	1999	CNC Columbia		
CNN (Cable News Network)	1980	Time Warner	0.39	0.58

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
CNN en Español	1997	Time Warner		
CNN Headline News	1982	Time Warner	0.19	0.29
CNN International	1995	Time Warner		
CoLours TV	2001	Black Star Communications		
Comedy Central	1991	Viacom	0.43	0.69
Cornerstone TeleVision	1979	Cornerstone TeleVision		
Country Music Television (CMT)	1983	Viacom	0.15	0.25
Court TV	1991	Time Warner	0.46	0.81
Crime & Investigation Network	2005	A&E		
CRN Networks	1983	CRN Digital Networks		
C-SPAN	1979	C-SPAN		
C-SPAN2	1986	C-SPAN		
C-SPAN3	1997	C-SPAN		
CSTV (College Sports Television)	2003	CBS Corp.		
Current TV (formerly Newsworld International)	1994	Gore-Hyatt		
Daystar Television Network	1998	Daystar Television Network		
De Pelicula	2003	Univision		
De Película Clásico	2003	Univision		
Deep Dish TV	1986	Deep Dish TV		
Discovery Channel	1985	Discovery Holding Co.	0.5	0.81
Discovery en Español	1998	Discovery Holding Co.		
Discovery HD Theatre	2002	Discovery Holding Co.		
Discovery Health Channel	1998	Discovery Holding Co.	0.09	0.15
Discovery Home Channel	1996	Discovery Holding Co.		
Discovery Kids Channel	1996	Discovery Holding Co.		
Discovery Kids en Español	2005	Discovery Holding Co.		
Discovery Times Channel	1996	Discovery Holding Co.	0.06	0.08
Discovery Travel and Living en Español (Viajar y Vivir)	2005	Discovery Holding Co.		
Disney Channel	1983	Disney	1.12	1.79
DIY (Do-It-Yourself Network)	1994	E.W. Scripps Co.		

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
DMX MUSIC	1991	Capstar Partners		
Docu TVE (formerly Grandes Documentales)	1996	Radio Television Española Internacional		
Documentary Channel, The	2006	Documentary Channel		
Dream Network, The	1994	Brohein Group LLC		
E! Entertainment Television	1990	Comcast	0.23	0.36
Ecuavisa Internacional	2004	Corporación Ecuatoriana de Televisión		
Employment Channel, The	2005	The Employment & Career Channel		
Encore	1991	Liberty Media	0.11	0.17
Encore Action	1994	Liberty Media		
Encore Drama	1994	Liberty Media		
Encore Love	1994	Liberty Media		
Encore Mystery	1994	Liberty Media		
Encore WAM!	1994	Liberty Media		
Encore Westerns	1994	Liberty Media		
ESPN	1979	Disney	0.65	1.39
ESPN Classic	1995	Disney	0.05	0.08
ESPN Deportes	2004	Disney		
ESPN2	1993	Disney	0.24	0.46
ESPNEWS	1996	Disney	0.05	0.06
ESPNU	2005	Disney		
EWTN en Espanol	1999	EWTN Global Catholic Network		
EWTN Global Catholic Network	1981	EWTN Global Catholic Network		
Faith Television Network	2002	Faith Television Network		
Family Net	2000	In Touch Ministries		
Familyland Television Network	1999	The Apostolate for Family Consecration		
Fine Living	2002	E.W. Scripps Co.		
FiT TV	1993	Discovery Holding Co.		
Food Network	1993	E.W. Scripps Co.	0.42	0.54
FOX Business Network	2007	Fox		
Fox College Sports	2001	Fox		

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
FOX Movie Channel	1994	Fox		
FOX News Channel	1996	Fox	0.62	1.03
Fox Reality	2005	Fox		
Fox Soccer Channel (formerly Fox Sports World)	1997	Fox		
Fox Sports en Español	1996	HM-Liberty-Fox		
FREE SPEECH TV (FSTV)	1995	Public Communicators Inc.		
FSN (Fox Sports Net)	1997	Fox		
FUEL TV	2003	Fox		
Funimation Channel	2006	Navarre Corp.		
fuse	1994	Cablevision	0.02	0.03
FX	1994	Fox	0.47	0.84
G4 VideogameTV (formerly G4 tech TV)	2002	Comcast	0.06	0.09
Galavisión	1979	Univision		
Game Show Network (GSN)	1994	Liberty Media	0.15	0.18
God TV	1995	God TV		
Golden Eagle Broadcasting	1996	Golden Eagle Broadcasting		
Golf Channel, The	1995	Comcast	0.06	0.1
GolTV	2003	Tenfiela		
Good Samaritan Network	2000	Good Samaritan Network		
Gospel Broadcasting Network (GBN)	2005	GBNTV		
Gospel Music Channel	2004	Gospel Music Channel		
Great American Country (GAC)	1995	E.W. Scripps Co.	0.04	0.06
Guardian Television Network	1976	Guardian Enterprise Group Inc.		
Hallmark Channel	1998	Crown Media Holdings Inc.	0.51	0.82
Hallmark Movie Channel	2004	Crown Media Holdings Inc.		
Havoc Television	2003	Havoc Television Inc.		
HDNet	2001	Cuban-Garvin		
HDNet Movies	2003	Cuban-Garvin		
Healthy Living Channel	2001	The Media Group		
History Channel	1995	A&E	0.46	0.75

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
History Channel en Español	2004	A&E		
History International (History Channel International)	1998	A&E	0.05	0.08
Hispanic Information & Telecommunications Network	1987	HITN		
Home & Garden Television (HGTV)	1994	E.W. Scripps Co.	0.45	0.8
Home Preview Channel		KB-MM-OCA		
Home Shopping Network (HSN)	1985	Liberty Media		
Horror Channel, The	2001	The Horror Channel		
HorseRacing TV	2002	Magna Entertainment Corp.		
HTV Musica (Hispanic TV)	1995	Time Warner		
i Shop TV	2001	The Media Group		
iDrive	2005	The Media Group		
ImaginAsian TV	2004	ImaginAsian Entertainment Inc.		
Independent Film Channel (IFC), The	1994	Cablevision		
Infinito	2002	Time Warner		
Inspiration Network , The (INSP)	1990	The Inspiration Networks Inc.		
Inspirational Life Television (i-Lifetv)	1998	The Inspiration Networks Inc.		
JCTV	2002	Trinity Broadcasting Network		
Jewelry Television	1993	Jewelry Television		
Kids Sports News Network	2005	Kids Sports News Network		
KTV - Kids and Teens Television		Dominion Video Satellite		
La Familia Cosmovision	2002	The Inspiration Networks Inc.		
Latele Novela Network	2005	Latele Novela Network		
Latinoamerica Television	2004	ACS Global TV		
LATV	2001	LATV Networks		
Learning Channel (TLC), The	1980	Discovery Holding Co.	0.35	0.63
Liberty Channel	2001	Liberty University		
Lifetime Movie Network	1998	Disney	0.21	0.3
Lifetime Real Women	2001	Disney		
Lifetime Television	1984	Disney	0.7	1.07
Link TV	1996	Link Media Inc.		

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
LOGO	2005	Viacom		
Mall TV (also called Outlet Mall TV)		The Media Group		
Men's Channel	2001	The Media Group		
Men's Outdoors and Recreation	2004	The Media Group		
MEXICANAL	2005	Cablecom-CC		
Mexico 22	2004	Televisión Metropolitana S.A. de C.V.		
MHD: Music High-Definition	2006	Viacom		
Military Channel	1998	Discovery Holding Co.	0.05	0.07
Military History Channel	2005	A&E		
Moody Broadcasting Network	1982	Moody Bible Institute of Chicago		
MoviePlex	1994	Liberty Media		
MSNBC	1996	NBC Universal	0.24	0.37
MTV	1981	Viacom	0.45	0.68
MTV 2	1996	Viacom	0.09	0.11
MTV Hits	2002	Viacom		
MTV Jams	2002	Viacom		
MTV Tr3s (formerly MTV Español)	1998	Viacom		
mun2	2001	NBC Universal	0.02	0.03
NASA Television	1991	U.S. Government		
National Geographic Channel	2001	Fox	0.15	0.25
National Jewish Television	1981	National Jewish Television		
NBA TV	1999	NBA		
Nexus Dominican Television Color Vision	2004	Nexus International Broadcasting		
NFL Network	2003	National Football League	0.06	0.11
Nick 2 (also called Nick Too)	1998	Viacom		
Nickelodeon/Nick at Nite	1979	Viacom	1.28	1.24
Nickelodeon GAS-Games & Sports For Kids	1999	Viacom		
Nicktoons	2002	Viacom	0.08	0.1
Noah's World International Television	2003	Noah's World International Television		
Noggin/The N	1999	Viacom	0.15	0.11

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
Once Mexico	2004	Instituto Politécnico Nacional		
Outdoor Channel, The	1993	Outdoor Channel Holdings Inc.		
OVATION - The Arts Network	1996	Arcadia, et al.		
Oxygen	2000	NBC Universal	0.14	0.21
PBS Kids Sprout	2005	Comcast		
Pentagon Channel	2004	U.S. Government		
PIN (Product Information Network)	1994	PIN (Product Information Network)		
Praise Television	1996	Christian Network Inc.		
Puma TV	1997	El Puma Television		
QVC	1986	Liberty Media		
Real Hip Hop Network, The	2006	The Real Hip Hop Network Broadcast Corporation		
ReelzChannel	2006	Hubbard Broadcasting Corp.		
ResearchChannel	2000	ResearchChannel		
Resort & Residence TV	2004	The Media Group		
RFD TV	2000	Rural Media Group Inc.		
Ritmoso Latino	2003	Univision		
S Networks	2003	Sovereign New Media Group Ltd		
SafeTV		Total Life Community Educational Foundation		
Science Channel, The	1996	Discovery Holding Co.	0.07	0.11
Sci Fi Channel	1992	NBC Universal	0.37	0.76
Senior Citizens Network	2006	Senior Citizens Network		
Shalom TV	2006	Shalom TV, LLC		
Shop At Home Network	1986	E.W. Scripps Co.		
ShopNBC	1991	Valuevision Media		
Short TV	1999	ShortTV Inc.		
Sí TV	2004	Barshop Ventures, et al.		
Sleuth	2006	NBC Universal		
Smile of a Child	2005	Trinity Broadcasting Network		

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
SOAPnet	2000	Disney	0.13	0.25
¡Sorpresa!	2003	Firestone Communications		
Soundtrack Channel (STC)	2002	Soundtrack Channel LLC		
Southern Entertainment Television (SET)	2004	Southern Entertainment Television		
SET 2: Bluegrass Music Channel	2004	Southern Entertainment Television		
SET 3: Classic Black Gospel	2004	Southern Entertainment Television		
SPEED Channel	1996	Fox	0.1	0.17
Spike TV	1983	Viacom	0.45	0.81
SPIRIT Television	2004	Spirit Communications Inc.		
Sportsman Channel, The	2003	Sportsman Channel, The		
Stuff TV		The Media Group		
Style Network, The	1998	Comcast	0.07	0.09
Sundance Channel	1996	NBC Universal		
Sur Mex	2005	SUR Corp.		
Sur Peru	2005	SUR Corp.		
TBN - Trinity Broadcasting Network	1973	Trinity Broadcasting Network		
TBN Enlace USA	2002	Trinity Broadcasting Network		
TBS Superstation	1976	Time Warner	0.65	1.12
TCT Network	2006	TCT Ministries, Inc		
Telefe Internacional	1990	Television Federal S.A.		
Telefutura	2002	Univision		
Telehit	2003	Univision		
Television Española Internacional (TVE)	1989	Radio Television Española Internacional		
Tempo	2005	Tempo		
Tennis Channel, The	2003	Tennis Channel, The		
Three Angels Broadcasting Network (3ABN)	1986	Three Angels Broadcasting Network		
TNT (Turner Network Television)	1988	Time Warner	0.91	1.52
Toon Disney	1998	Disney	0.15	0.18
Toon Disney en Español (SAP)	1998	Disney		
Total Living Network	1998	Christian Communications of Chicagoland		

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
Travel Channel	1987	Cox Communications	0.14	0.31
Turner Classic Movies (TCM)	1994	Time Warner		
TV Chile	1999	Television Nacional de Chile		
TV Colombia	2003	LatinAmerican Television LLC		
TV Games Network - Interactive Horse Racing	1994	TV Guide		
TV Guide Channel	1988	TV Guide	0.1	0.19
TV Guide Interactive	1996	TV Guide		
TV Internacional	2003	TV Internacional		
TV Land	1996	Viacom	0.43	0.62
TV One	2004	Comcast-Radio1-DirecTV	0.07	0.1
TV Venezuela	2005	SUR Corp.		
TVU/TVU Live	2001	Spirit Communications Inc.		
TyC Sports International Channel	2003	Grupo Clarin - TyC		
Universal HD (formerly Bravo HD+)	2004	NBC Universal		
Univision	1996	Univision		
USA Network	1980	NBC Universal	0.87	1.76
Utilísima Televisión	1996	Fox		
Versus (formerly Outdoor Life Network - OLN)	1995	Comcast	0.06	0.14
VH1	1985	Viacom	0.31	0.54
VH1 Classic	1999	Viacom	0.02	0.03
VH1 Soul	1999	Viacom		
VHUno	1999	Viacom		
Video Rola	2001	MegaCable		
VOOM HD Networks	2005	Cablevision		
VTV (Varsity Television)	2003	Varsity Media Group Inc.		
WAPA America	2004	LIN TV Corp.		
Water Channel	2005	MCE Television Networks		
WE: Women's Entertainment	1997	Cablevision	0.09	0.14
Wealth TV	2004	Wealth TV		
Weather Channel, The	1982	Landmark Communications Inc.	0.21	0.21

Network	Launch Year	Attributable Owner*	Full Day Household Rating**	Prime Time Household Rating**
Weatherscan Local	1999	Landmark Communications Inc.		
WGN Superstation	1978	Tribune Company	0.16	0.23
Word Network, The	2000	The Word Network		
World Harvest Television	1992	LeSea Broadcasting		
Worship Network, The	1992	Christian Network Inc.		
Yesterday USA	1985	National Museum Of Communications Inc.		

Sources: FCC, Twelfth Annual Report (released March 3, 2006); SNL Kagan, Economics of Basic Cable Networks, 2007 Edition; National Cable and Telecommunications Association (NCTA), <http://www.ncta.com>; Broadcasting & Cable, "Guide to Hispanic TV Networks," (October 1, 2007) <http://www.broadcastingcable.com>; Warren Communications News, Television & Cable Factbook, 2007 Edition; Fox; NBC Universal; Viacom.

* Each network was "attributed" to a single owner. Most often, the attributed owner had a majority ownership in the network. In some cases, one owner was chosen from two owners with 50 percent shares. In such cases, ownership was attributed to the owner with the larger number of other networks. Networks for which no ownership information could be determined, and networks with no owner above 49 percent, were assumed to be owned independently.

** Ratings data from Nielsen Media Research cover September 25, 2006 through September 30, 2007.

Appendix 4: Economic Analysis of Product Bundling

Firms often choose to sell related products together in packages. Bundling is used to achieve cost savings or may arise from complementarities among the products involved. Bundling can also be a form of price discrimination, allowing a firm to take into account the dispersion of buyer valuations. This appendix provides an overview of the economic analysis of product bundling, nearly all of which is equally applicable to retail and wholesale packaging of video programming. I also attach earlier papers I and others submitted to the Commission describing this analysis as it applies in the retail context (see Attachments 1-4), along with a related paper my colleagues submitted to the Commission (see Attachment 5).

In the following discussion of bundling, the consumer or purchaser can be thought of as an individual with a willingness to pay for various products (e.g., cable networks), or can be thought of as an MVPD with a reservation price for each network based on its beliefs regarding how the addition of each network will affect its profits (through increased subscribers, increased subscriber fees and increased local advertising revenues). While the MVPD as purchaser is most immediately relevant for present purposes, the broad economic results also apply to retail bundling of networks to consumers.

1. Bundling is common and can result in cost savings

Bundling is an extremely common phenomenon in the American economy. Indeed, it is more the rule than the exception. Almost every product and service purchased by consumers is bundled by sellers from various components that could each, at least in principle, be sold or priced separately. Bundling presents no presumptive threat to consumer welfare. In fact, bundling generally promotes consumer welfare and increases efficiency by lowering the prices of goods and services. Exploitation of market power is not a common reason for bundling. As Professor Bruce Kobayashi notes:

Bundling, or the selling of two separate goods in a package, is a ubiquitous phenomenon. Bundling is used by firms producing a wide variety of products and services, and is used to sell products at both the retail and wholesale level. Bundling is used by established firms and by new entrants, by dominant firms and by firms with many competitors, and by firms in both regulated and unregulated industries. The widespread and ubiquitous use of bundling by firms,

especially by those in highly competitive markets, suggests bundling yields widespread benefits for both firms and consumers.²⁶

Whether, and how, to bundle components is an important aspect of the competitive strategies of individual firms. A seller decides what components to bundle, and which components to offer for sale individually or in other bundles, in light of its costs, its understanding of what will appeal to customers and the current and expected future marketing strategies of competing sellers. Pure bundling describes a marketing strategy in which two or more products are sold only together in fixed proportions when they could be (but are not) sold separately.²⁷ Everyday examples of pure bundles include a frozen dinner with meat and vegetables, a newspaper with all sections, a reference book with all chapters, and shoes with laces. Pure bundling is a commonplace and efficient method for delivering a wide range of products to consumers.

There are a variety of reasons why competing firms find it efficient to bundle potentially distinct products. Products may be bundled to reduce the transaction and information costs involved in purchasing, distributing, and selling goods and services. Bundling can enable firms to exploit economies of scale and scope in production and distribution. Bundling can enhance the attractiveness or convenience of the product to consumers and serve to reduce consumers' search costs by allowing firms to market integrated and compatible products. For example, shoes are sold with laces because it is more efficient (i.e., it has lower transaction costs) than selling the shoes and shoelaces separately. Otherwise, consumers would have to search for, and shoe stores would have to stock, matching laces.

Oftentimes bundling occurs because sellers can assemble parts into bundled units more cheaply and efficiently than can customers. Even though a self-assembled or tailored-made product might more closely match their own special tastes, customers frequently prefer a bundled product because it has a lower all-in price. For example, a television consists of many individual components and can be regarded as a bundle including a screen, a tuner, speakers, etc. Obviously, each of these components could be sold separately, but they come as a bundle because consumers desire assembled

²⁶ Bruce H. Kobayashi, "Two Tales of Bundling: Implications for the Applications of Antitrust Law to Bundled Discounts," in *Antitrust Policy and Vertical Restraints*, R. W. Hahn, ed., AEI-Brookings Joint Center (2006), pp. 10-37, at 10.

²⁷ In "pure bundling" the products are only offered for sale together, whereas in "mixed bundling" the products are available individually as well as together.

products. These cost savings can also explain the use of standardized option packages for various products.

Newspapers are a familiar example of an efficient bundle. In order to buy the sports section of the *Washington Post*, one must buy the whole paper. Not everyone who purchases a daily newspaper reads each section, and each section could be sold separately. But it is efficient to sell the sections in a bundle for at least three reasons. First, there are economies in having all of the sections delivered at once, rather than having separate deliveries (and transactions) for each section. Second, subscribers receive some value by having the *option* to look at all of the sections, even if they usually do not read all of the sections. For example, subscribers who typically do not read the sports section may read it during special events, such as the Olympics. Subscribers can avoid the cost and inconvenience of having to order this section when they want it. Also, by scanning the entire paper subscribers may find an article of interest, which they would not see if the sections were sold separately. This option has value to subscribers. Third, by expanding the potential readership of the entire paper and by eliminating the need for duplicative advertisements, bundling also makes advertising more valuable and more efficient. Hence, for advertisers there is a synergistic effect from bundling. An increase in advertisers' willingness to pay for circulation, other things equal, tends to reduce the price the newspaper charges for subscriptions.

If bundling is driven solely by cost savings, an external regulatory constraint making bundling unlawful will reduce welfare by increasing costs. This is true whether or not sellers have market power.

2. Price discrimination models of bundling

Alongside cost savings reasons for bundling just discussed, the economic literature offers another explanation for product bundling that depends on the incentive for a seller to discriminate among consumers, some of whom place a higher value on a given product than others. Bundling can be viewed as an implicit way to charge a higher price to those consumers who most value some components of the bundle and a lower price to those who value those components least.²⁸ It can be much easier to predict purchasers' valuations for a bundle of goods than their valuations for the individual components when sold as separate goods. Research into the bundling of information

²⁸ See, for example, George Stigler, "The Economics of Block Booking," in *The Organization of Industry*, Chicago: The University of Chicago Press (1968).

goods, i.e., goods for which the marginal costs of production and distribution are very low, finds that by taking advantage of this effect it is possible for a firm to achieve greater sales and greater economic efficiency. The low marginal cost for information goods not used by the buyer can create this efficiency effect for information goods where the same effect might not hold for other physical goods.²⁹

Economists have studied the economics of bundling for many years and have constructed numerous abstract models of this decision-making process. The analyses indicate that bundling is a natural consequence of competitive as well as imperfect markets and that a given seller's profit-maximizing marketing strategy depends on many factors, including the details of production and demand conditions. Any given instance of bundling is at least as likely to be beneficial to consumers as a group as not. Generalizations are very difficult to come by, partly because virtually every instance of bundling, whatever its overall effects, improves the positions of some customers while worsening the positions of others. This makes policy analysis of bundling extremely complicated, and counsels against blanket condemnation of the practice.

Professor Timothy Brennan summarizes the point that in the economics literature there are results where bundling can either benefit consumers or harm consumers:

The economics of bundling has a long and complex history, characterized mainly by a set of results that focus on price discrimination. As with the price discrimination literature generally, bundling has been regarded as a practice with highly ambiguous consequences. Analyses of bundling by monopolists are either indeterminate or depend heavily on virtually unobservable variables such as correlations of inframarginal valuations across bundled products.³⁰ [footnotes omitted]

To see how pure bundling can make some purchasers better off and some worse off relative to stand-alone pricing, consider the following example. Assume that there are two goods, Good1 and Good2, and two purchasers, Alpha and Beta. The following table shows the reservation prices of each of the purchasers (i.e., the maximum amount each purchaser is willing to pay) for each of the goods.

²⁹ Yannis Bakos and Erik Brynjolfsson, "Bundling Information Goods: Pricing, Profits and Efficiency," *Management Science*, Vol. 45, No. 12 (Dec. 1999), pp. 1613-1630.

³⁰ Timothy J. Brennan, "Competition as an Entry Barrier? Consumer and Total Welfare Benefits of Bundling," AEI-Brookings Joint Center for Regulatory Studies, Working Paper, June 2005, p. 1.

	GOOD1	GOOD2
ALPHA	3	5
BETA	9	3

To keep the example simple, assume that the cost of producing each good is zero and that each purchaser will purchase either 0 or 1 unit of each good. If a firm sells each product separately, its profit maximizing prices are 9 for Good1 and 3 for Good2. At these prices the firm will sell a unit of Good1 to Beta and a unit of Good2 to both Alpha and Beta. The firm's profit will be 15. At these prices, purchaser Alpha has a surplus of 2, because Alpha is willing to spend 5 on Good2 but only has to pay 3. In contrast, purchaser Beta has a surplus of 0, because Beta has to pay its reservation price for each good.

Now assume the firm sells the two goods only as a bundle. In this situation the profit maximizing price for the bundle is 8, and each purchaser buys the bundle. The firm's profit will be 16. At this price for the bundle, purchaser Alpha has a surplus of 0, because Alpha has to pay the sum of its reservation prices for the bundle. In contrast, purchaser Beta has a surplus of 4, because Beta only has to pay 8 for the bundle but is willing to spend 12 on both products.

Selling the bundle is the more profitable alternative for the firm. Relative to selling the products separately, selling them as a bundle makes Alpha worse off, because Alpha's surplus falls from 2 to 0, but makes Beta better off, because Beta's surplus increases from 0 to 4. Selling the bundle also increases social welfare (defined as the sum of surplus plus profit) because social welfare equals 20 with the bundle but only 17 if the goods are sold separately.

This simple example shows that selling products as a bundle may increase the welfare of one purchaser while decreasing the welfare of another purchaser. Similarly, prohibiting the firm from selling the goods as a bundle will make one purchaser (Alpha) better off while making another purchaser (Beta) worse off. The example also illustrates that prohibiting the bundle can reduce the firm's profit, total consumer surplus, and social welfare.

It is possible to construct other examples that illustrate other possible outcomes. For instance, Appendix B in Attachment 5 presents an example illustrating that all consumers can be better off (or at least no worse off) with bundling than with unbundled

sales. Examples discussed in Attachment 4 illustrate that bundling may be necessary to ensure that a socially desirable product is provided at all or that socially desirable quality improvements in a product occur. Examples can be constructed to show that some purchasers who would not have purchased either of the products if sold separately will purchase the bundle, while at the same time some purchasers will fail to purchase the bundle even though they would have purchased one of the goods if offered stand-alone. The particular assumptions underlying any example or economic model determine whether bundling will increase or decrease total purchaser surplus. Similarly, depending on the way the example is structured, total surplus can go up or down.

These examples do not demonstrate that bundling *always* is desirable and improves welfare. Rather, they demonstrate simply that there should be no presumption of a welfare loss stemming from observed bundling, or a welfare improvement from mandatory unbundling. It is also possible to construct a hypothetical example in which mandatory unbundling improves welfare. However, without any empirical basis there is no reason for believing that hypothetical examples that show an improvement in welfare from unbundling are more representative of reality than others with opposite effects. A somewhat deeper point, from a policy perspective, is the great difficulty of telling one situation from another. Note, in the example above, how the welfare analysis turns on the assumption that the consumers' individual valuations for each product are known to the observer. In the real world this is very seldom true.

The same a priori indeterminacies arise in comparing mixed bundling to selling products only separately. A policy outlawing mixed bundling and requiring individual product sales will generally make some consumers better off and other consumers worse off. Such a policy can reduce total purchaser surplus and total surplus, as illustrated in Appendix C of Attachment 5.

A regulatory intervention restricting bundling may increase the welfare of some consumers who prefer specific individual services, but the increase comes at the expense of consumers who prefer the bundled services. A complete welfare analysis also requires knowing who or what type of individual is harmed or benefited, because marginal changes may not have an equal value to all consumers. For example, if it turned out that relatively well-off people would benefit from an intervention that required unbundling, while less well-off families would fare better under pure bundling, the intervention would harm the poorest Americans. Generally, the economic models

provide no basis to predict whether the consumers who may be better off have a special claim on society arising from conditions such as poverty or geographic isolation.

3. Antitrust and tying and bundling

In many cases where bundling is observed, the reason that separate goods are sold in a package is easily explained on efficiency grounds. This is certainly the presumptive explanation for bundling when it occurs in highly competitive markets. These efficiency-based explanations apply with equal force to the use of bundling by firms with market power. In addition, firms with market power can use bundling for other reasons—for example, as a price discrimination device or a way to internalize pricing externalities in the presence of complementary goods. However, in markets where firms can exercise monopoly power, bundling can have anticompetitive uses that may be scrutinized under the antitrust laws. Because bundling can also be an efficient practice when firms possess market power, any evaluation of bundling must simultaneously consider both the strategic and efficiency reasons for its use.

Tying

A tying arrangement occurs when the seller of a product, service or intangible (the “tying” product) conditions the sale on the buyer’s purchasing a second product (the “tied” product).³¹ Practices by firms with monopoly power in the tying good that involve such coercion can be unlawful. While some economists define pure bundling as tying, bundling has been distinguished from tying under the antitrust laws, and bundling and other forms of packaged sales have generally been found to lack a coercive element.

A tying arrangement is unlawful under the Sherman Act if (1) there exist two separate products, (2) the sale of one product is conditioned on the purchase of the other, (3) the seller has sufficient market power with respect to one product (the tying product) to enable it restrain competition appreciably in the other (the tied product,) and (4) the tie has an effect upon a substantial amount of commerce in the tied product.

³¹ See *Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 2, 25 (1984).

A key criterion is that the seller must have considerable economic power in the tying product. This economic power is often demonstrated by showing that the seller has a dominant position in the tying product market or that the seller's product enjoys some significant advantage not shared by competitors in the tying market.

Exclusionary bundling

Recent economic analysis has also examined the use of bundling as an exclusionary or entry-detering device.³² That is, bundling could be used by a monopolist in one market to reduce competition in another market. Taken as a whole, the literature on exclusionary bundling provides the following results: (1) bundled discounts can exclude or deter the entry of equally efficient competitors, (2) this exclusion can occur at prices that are above cost, and (3) bundled discounts that exclude equally efficient competitors can increase or decrease consumer and total welfare. At the same time, the literature does not go beyond showing that such effects are possible; it does not provide any empirical evidence that such effects are likely under real-world conditions.³³

The exclusionary bundling literature assumes that the firm engaging in the practice is a monopolist in one of the markets, and little attention has been paid to examining the firm's incentives if there is competition in that market. Moreover, these models typically ignore other reasons for bundling, such as cost efficiencies and pricing to heterogeneous purchasers. As a result, these models cannot gauge whether the potential for harm outweighs any demonstrable benefits.³⁴

4. Application to cable wholesaling

As discussed in the text, programmers are not selling cable networks to MVPDs only as bundles, or forcing MVPDs to purchase bundles of networks. But even if this were happening, there is no reason to believe that prohibiting bundling would make MVPDs or consumers better off. As discussed, the overall welfare effects of bundling on purchasers are typically ambiguous, because generally some purchasers benefit

³² See, for example, Barry Nalebuff, "Bundling as an Entry Barrier," *Quarterly Journal of Economics*, 119, no. 1, pp. 159-87 (2004).

³³ Kobayashi, *op cit.*, at 21.

³⁴ *Ibid.* at 22.

from bundling and others are harmed. For purposes of this section, it is assumed that some bundling to MVPDs of the type that would be prohibited actually occurs.

There is no economic model clearly applicable to the business of wholesale provision of video programming that incorporates its special features (differentiated product competition, non-rivalrous services, two-sided markets, multiple temporal and geographic releases, etc.). Even aside from these special features, there are intrinsic economic characteristics of the business that make bundling likely to be efficient: complementarities in production and marketing (e.g., cross-promotion) and savings in transaction and bargaining costs. Similarly imponderable are the potential effects on diversity, however defined. The Commission is not likely through this proceeding or otherwise to uncover empirical evidence sufficient to avoid a very substantial risk that a regulatory intervention will reduce efficiency and welfare.

If bundling by programmers were prohibited, some MVPDs would be better off, some worse off. Some MVPDs will benefit from stand-alone purchases. They will acquire fewer networks and will pay less in total for programming from a particular supplier. The total effect on their programming purchases and pricing to consumers is indeterminate because these MVPDs could increase purchases from other programmers.

Other MVPDs, however, will be better off purchasing all the networks in the bundle at the bundled price. If the bundle were prohibited, these MVPDs would either (1) purchase the same group of networks as contained in the bundle but pay more than previously, or (2) not buy all the networks because the sum of the stand-alone prices is higher. In the latter case, the MVPDs are worse off because the value to them of the networks that are dropped exceeds the marginal “price” of those networks in the bundle but does not exceed the stand-alone price.

From a consumer’s standpoint, prohibiting wholesale bundling will change the mix of networks purchased and the prices paid by MVPDs. This in turn will change the mix of networks offered by each MVPD to its subscribers, and the subscription price. This is likely to make some consumers better off and make others worse off. Many elements affecting the net result are empirical and difficult to observe. If, for example, an MVPD stops purchasing some networks, which networks would no longer be purchased and included in the MVPD’s bundle/tier, how much less would the MVPD pay for the programming, how much would the MVPD’s retail price for the bundle/tier be reduced, and how would various consumers value the networks no longer included in the MVPD’s bundle/tier? If the MVPD were to add other networks in place of the networks that were dropped, what would be added and what would this do to the retail

price? An even more complete evaluation would have to take into account the appeal to various segments of consumers of any networks that are carried under bundling but would not be carried with stand alone pricing as well as those networks that would be carried by these MVPDs but for bundling.

To illustrate, assume initially that an MVPD offers a bundle of 10 networks to consumers for \$20. If wholesale bundling is prohibited, the MVPD may no longer purchase one of the networks and simply offer a bundle of 9 networks for \$18. In this case, those consumers that value the 10th network at more than \$2 are net worse off; those that value the 10th network at less than \$2 are net better off. Another possibility is that the MVPD drops one of the original 10 networks and replaces it with another network, still charging \$20 for the bundle. In this case, those consumers that value the network that was dropped more (less) than they value the network that was added are worse (better) off. Clearly, there is a myriad of possibilities and no clear-cut impact on consumers as a whole, much less on any particular segment of society.

The Notice seeks comment on whether satellite cable programmers are tying carriage of “desirable” channels to carriage of other less desirable owned or affiliated channels, and whether such “take-it-or-leave-it” tying arrangements without any alternative offer to provide the programming on a stand-alone basis are prevalent in the industry. It is possible that what MVPD complainants may really object to is that the price offered for the “desirable” programming is not available without the “less desirable” programming. That is, an MVPD may be offered a network bundle at a price, and though the MVPD can remove an “undesired” network from the bundle, the price of the remaining bundle is not more attractive—it may even be higher than the price with the undesired network.

Program suppliers often are willing to offer a lower price or superior terms on some of their programming services if a cable operator is willing to ensure distribution of additional services. Indeed, even if an MVPD were otherwise inclined to purchase and carry only a single network from a particular programmer, the MVPD still might find it economically efficient to purchase a package of networks. This is because a programmer may be willing to pay an MVPD to ensure launch and carriage of a network. A payment from the programmer to the MVPD reflects the fact that the stand-alone competitive price for a network is negative, and this negative price for the “undesirable” network is “hidden” in the bundled price and causes the bundled price to be lower than the stand-alone price of the “desirable” network. All that is being observed is a price incentive offered by the programmer so the MVPD will take more programming.

Attachment 1

**CABLE NETWORKS: BUNDLING, UNBUNDLING, AND THE
COSTS OF INTERVENTION**

by

Bruce M. Owen and John M. Gale

July 15, 2004

ECONOMISTS INCORPORATED

Washington DC

Cable Networks: Bundling, Unbundling, and the Costs of Intervention

by

Bruce M. Owen and John M. Gale[†]

Summary

Congress has asked the Commission to respond to a series of questions regarding the manner in which programming is sold to cable operators and direct broadcast satellite systems (collectively, “MVPDs”) and to subscribers. The questions focus on the economic and legal impact of possible changes in the way programming is sold, to be mandated by law or regulation. These possibilities include requiring suppliers¹ to license their cable networks to MVPDs individually (à la carte), rather than as bundles;² requiring suppliers to permit MVPDs to resell cable networks either à la carte or as part of a theme tier; mandating à la carte pricing; mandating theme tiers; and mandating a “family tier.” In order to help prepare its response to Congress, the Commission issued a Public Notice seeking

[†] Owen is the Gordon Cain Senior Fellow in Stanford University’s Institute for Economic Policy Research and a Special Consultant to Economists Incorporated. Gale is a Senior Economist at Economists Incorporated.

¹ Throughout the paper, network refers to a specific “cable” network, such as Nickelodeon or CNN, marketed to MVPDs, whereas supplier refers to the entity that owns a network or group of networks, such as Viacom or Time Warner.

² We use the terms “unbundled” and “à la carte” synonymously herein.

comment on factual questions regarding the provision of à la carte and theme tier services by MVPDs.³

Viacom asked us to provide economic analysis of certain issues raised by the various proposals. Specifically, we address the following issues:

- Do upstream suppliers of scheduled program services (“cable networks”) licensing to MVPDs require MVPDs to purchase bundles of cable networks rather than offering program services individually?
- Is the MVPD practice of offering bundles or tiers of services to retail subscribers harmful to consumers? What would be the effect on cable networks and consumers of a regulation requiring MVPDs to offer programming à la carte, with or without continued bundling?

We address these issues factually where time and available data permit, and in any case conceptually. Our conclusions, briefly, are as follows:

1. Bundling is an extremely common phenomenon in the American economy. Indeed, it is more the rule than the exception. Bundling presents no presumptive threat to consumer welfare. In fact, bundling generally promotes consumer welfare by lowering the prices of goods and services. Whether and how to bundle components is an important aspect of the competitive strategies of individual firms. In general, an external regulatory constraint making bundling unlawful will reduce welfare by increasing costs. This is true whether or not sellers have market power. While a

³ FCC, “Comment Requested on À La Carte and Themed Tier Programming and Pricing Options for Programming Distribution on Cable Television and Direct Broadcast Satellite Systems,” MB Docket No. 04-207, May 25, 2004 (hereinafter “Public Notice”).

regulatory intervention restricting bundling is likely to reduce overall welfare, it may increase the welfare of those consumers who prefer highly customized services, but at the expense of consumers who prefer highly bundled services. There is no basis to predict that any consumers who may be better off have a special claim on society, such as poverty or geographic isolation. Thus, giving each consumer equal weight, consumers as a group will be worse off if bundling is not permitted.

2. Our empirical research contradicts the idea that suppliers generally require MVPDs to purchase bundles of programming. The cable network industry is competitive. MVPDs have many sources of programming and can vary the proportions in which they buy programming.⁴ Entry into the business of providing programming to MVPDs is not restricted, as evidenced by the actual entry of more than 200 new networks in the past decade.⁵ Suppliers of cable networks may well offer bundles of networks to MVPDs, but they must offer a price for the bundle that is no greater than the sum of the competitive prices of the individual networks, compensating their customers for taking low-value networks by, in effect, lowering the price of their most popular networks. In any event, the evidence is that cable networks are not systematically purchased by MVPDs as bundles. For example, a large percentage of 2,455 cable systems studied do *not* carry all the networks offered by leading suppliers such as Time Warner, Discovery, Dis-

⁴ One piece of evidence attesting to the increasing competitiveness and efficiency of wholesale suppliers of programming has been the decline in the extent of vertical integration in the industry. See FCC, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Tenth Annual Report, MB Docket No. 03-172, 2004, Table 8.

⁵ Id.

ney and Viacom. These data also show that suppliers license their networks in many different combinations and on a stand-alone basis.

3. Our economic analysis of the competitive forces on cable networks leads us to predict that suppliers would offer MVPDs a substantially lower price in exchange for placing any network on a tier that matches that network's national marketing strategy. Cable networks generally must adopt a particular marketing strategy in order to survive competitively. One important choice is whether to offer "premium" programming supported solely by subscription license fees or "basic" programming, supported by advertising and license fees. There are advantages if the strategy is uniform across markets for any given network, chiefly because the different strategies call for different program qualities, but also because customized marketing is more expensive than national marketing. Therefore, cable networks will prefer a particular tier placement, and will likely offer a better price to MVPDs who agree to that placement.
4. Prices cannot be ignored. Neither the issue of whether MVPDs are required to buy bundles of programs nor the issue of whether they are required to place certain cable networks on certain tiers can be addressed in the absence of price comparisons. To understand this, consider whether a shopper who is offered a quantity discount for laundry soap, for example, is *required* to buy a larger quantity. Assuming for the sake of argument, and contrary to common sense, that the answer is yes, requiring the soap powder to be "unbundled" is no solution unless the government is prepared to regulate both the sizes of the components and their prices.
5. The last point is especially important. It is very difficult to imagine an effective law or regulation requiring unbundling of MVPD networks, either

at wholesale or retail, that was not accompanied by government regulation of the prices and license fees and other terms of trade between cable networks and MVPDs and between MVPDs and retail subscribers. Such regulation would be far more complex than the Commission's attempts to regulate the prices of unbundled elements of local telephone service.

6. We examine the limited empirical evidence bearing on the effect of mandated unbundling on specific cable network à la carte retail prices. Making a series of assumptions, and not attempting to account for certain important but unknowable factors, we offer a rough empirical basis for predicting the effects of mandated unbundling of particular cable networks at the retail level. We find that at the mid-point of the ranges considered the average cost per subscriber (exclusive of the basic tier fee and converter box fee) for ten à la carte networks would be \$44.60. These calculations, summarized in Table 4, strongly suggest that consumers will end up paying substantially more than they do now for the present collection of cable networks or for any substantial subset of networks. Consumers who wish to subscribe only to a very few of the existing networks, including consumers who currently do not subscribe to any expanded tier, may be better off. However, these are short-term "partial equilibrium" predictions. In the longer term, there is no assurance that the networks such consumers prefer will survive the change, or, if they do, that they will retain their current levels of program quality.
7. Unbundling clearly will increase the costs to viewers of sampling content on cable networks they do not regularly watch. This provides a firm basis to predict that the effect of the proposed interventions would be to impair

the ease of access of all Americans to new ideas and contrary and minority viewpoints.

8. We consider, last, the proposal to mandate certain bundles of content organized according to specified themes. An example is the proposal for a “family tier.” Based on the analysis in Section V, we conclude that consumers who subscribed only to such a bundle would pay as much or more than they do now, and that some or all of the networks that they currently receive might no longer exist. Moreover, unbundling only a few specific networks might not reduce the price of the remaining bundle of networks. Further, for reasons explained in Section VI, we think that overall consumer welfare would be adversely affected by mandated unbundling or tiering, and that it would raise substantial First Amendment issues.

I. Introduction

The task before the Commission in responding to the Congressional inquiry is extraordinarily difficult and complex. To illustrate the difficulty, consider the proposal to require MVPDs to offer all cable networks à la carte, either as the only alternative or in combination with various tiers.

Many cable networks are dependent upon a dual revenue stream, consisting of advertising revenues and subscriber fees. It is reasonable to expect that, if a cable network were taken out of the basic or expanded basic bundle and instead offered à la carte, it would lose subscribers. A reduction in subscribership, holding subscriber license fees and advertising rates constant, would reduce revenues in both these categories.

In addition to these revenue losses, if a cable network were taken off a tier and offered à la carte it would incur additional transactional marketing and associated costs. Transactional marketing consists of tactics, activities and resources designed to generate subscriptions to an à la carte network by stimulating consumer demand and influencing consumer choice. A cable network offered to consumers à la carte would face these additional marketing costs in order to overcome the higher search and transactions costs faced by potential viewers. The network would have to compete with dozens, if not hundreds, of other networks for the consumer's dollar.

There are many factors to consider in assessing an à la carte regime. How will suppliers of cable networks respond? How will MVPDs respond? How will consumers respond? How will providers of inputs, such as rights holders, respond? How will competitive interactions among networks change? All of these factors and their interactions affect what will happen to subscriber rates for cable

programming under an à la carte regime. One cannot confidently predict all the specific long-run changes that would result from restricting the way cable programming is sold. Bundling of cable networks is part of a complex system of related economic decisions that involve program quality and marketing as well as pricing.

Section V below describes our empirically-based effort to predict the effects of unbundling on the weighted average network price. Such predictions necessarily cannot account for certain important but immeasurable factors, such as consumer demand for individual networks and future competitive interactions among cable networks and MVPDs. Predicting what will eventually happen, to what extent, and to which cable networks, is immensely complicated by the fact that a rule requiring a change in marketing practices would affect all MVPDs, nearly all program suppliers and nearly all networks. While one might hope to model the behavior of any one cable network holding the behavior of other networks constant, changes of the magnitude proposed would clearly throw the entire industry into a period of disruption and disequilibrium. It is beyond this paper's scope to model and describe with certainty the duration of this period of disruption, the likely new industry equilibrium, if any exists, much less the path the industry would follow, during a period of uncertain duration, to arrive at such an equilibrium. Nevertheless, the lost advertising revenues and higher costs associated with à la carte pricing are likely to persist in the long run, and to result in a permanent reduction in aggregate welfare.⁶

⁶ We think it likely that the proposed interventions would reduce the size of the economic pie available to be shared by all consumers. However, despite the smaller overall pie, some consumers may be better off as measured by their surplus from consumption of MVPD services. When we predict reductions in overall welfare we are implicitly giving equal weight to each consumer. This assumption is justified by the absence of any apparent correlation between

Although predictions regarding specific networks are difficult, some generalizations are possible. Clearly, any loss of subscriber or advertising revenue and any increase in costs would in the first instance increase consumers' per-network subscription prices, reduce program quality, cause the exit of some networks, and limit the entry of new networks. Hence, the change in pricing would reduce the variety and breadth of programming offered to subscribers. Moreover, it would reduce what a cable network is willing to pay for both original and syndicated off-network programming, reducing the quality of cable programming offered to subscribers as well as the quality of certain types of broadcast network programming.⁷ Also reduced would be the revenues earned by certain program inputs with possible further reductions in the quantity and quality of their output. All of these effects will serve to reduce consumer welfare. Subsequently, competitive interactions would take place among cable networks and among MVPDs, further complicating one's ability to predict specific effects.

The uncertainty of impacts on specific consumers and suppliers within this overall picture is itself a strong argument against requiring programmers and MVPD systems to make such a drastic change. Regulatory interventions, once instituted, are difficult to reverse.

those likely to benefit from unbundling and the characteristics traditionally associated with unequal weighting of income. In this respect mandatory unbundling resembles an economically inefficient tax that transfers income from one randomly selected group of consumers to another, reducing GNP in the process.

⁷ Part of the cost of certain types of broadcast network programming is recouped from sale of the programming into syndication. If syndication revenues, such as payments from cable networks, are decreased, creators of broadcast programming will have to reduce production costs, and quality, of new broadcast network programming.

Another consequence of required à la carte pricing is predictable in direction if not in magnitude. That consequence would be a reduction in the opportunity of American households to be exposed to different points of view and new ideas. To see how this would come about, consider the difference between the way in which MVPDs currently provide networks (i.e., bundled) and the way that magazine publishers offer subscriptions (i.e., à la carte). Many consumers today can sample or “surf” across the various video options available to them, deciding to settle on a particular network based on the attractiveness of a quick sample of the programming. This facilitates the opportunity for content suppliers to compete for viewer attention across disparate sources and genres.

In contrast, the subscription model used by the magazine industry (or, for that matter, by premium movie and sports networks) does not permit such easy “surfing.” A given consumer typically makes a decision at some point to subscribe to *Time*, *Newsweek*, *The Economist*, or another newsweekly, and thereafter relatively seldom has the opportunity to sample the content of the magazines not subscribed to. Other things being equal, this reduces the opportunity for consumers to be exposed to new ideas and new ways of expressing them, or different opinions.

The magazine industry and the cable network industry arrived at their current competitive marketing strategies by different historical paths that may well be sufficient to explain the present differences between their marketing strategies. If magazine distributors were to bundle magazine subscriptions (and offer “family” collections of magazines) they could reduce costs and probably would make some magazine readers better off economically and others worse off economically. The opposite requirement, applied to the cable industry as proposed, similarly would benefit some viewers and harm others. In both cases there is likely to

be a negative net welfare effect on consumers as a group.⁸ But it seems clear that the cause of greater diversity of viewpoints and a better informed public would be better served by forcing publishers to offer bundles and tiers—much the same way the government requires cable operators to sell a basic service tier of broadcast signals—rather than by forcing MVPDs to do the opposite.

Section II of this paper contains a general discussion of bundling and pricing. Section III describes our empirical analysis of the carriage of cable networks by over 2,400 cable systems representing about 80 percent of cable subscribers. Section IV discusses how subscriptions, cable advertising revenue, and cable network costs are likely to be affected by unbundling. Section V describes the data we examined, and the analysis we conducted in an attempt to predict (in a partial equilibrium framework) the effects of mandated à la carte pricing on the prices of cable networks. Section VI offers a brief analysis of the proposal that MVPD systems provide program tiers based on content, an issue to which the analysis in Section V is also applicable.

⁸ Magazine industry costs would increase because such bundling would require an intermediate layer of distribution, which we assume would exist if consumer benefits justified its costs. (See also note 6.) There is a theoretical possibility that path dependence and changing conditions have led one or the other of these two industries to equilibrium pricing strategies that are no longer globally efficient. The Commission faces insuperable practical difficulties in exploring this possibility, and even if these were overcome, still greater difficulties in fashioning a remedy that would be responsive to changing conditions of technology and demand.

II. Background

A. Bundling is a universal and benign practice

Almost every product and service purchased by consumers is “bundled,” by sellers, from various components that could each, at least in principle, be sold or priced separately. Purchased bundles are then further combined, by customers, into useful consumption activities. A consumer who wishes to make and drink tea buys several bundles: teabags (consisting of tea, filter paper folded into pouches, string, staples, packaging, advertising, transportation, wholesale and retail services); milk (consisting of raw milk, processing, packaging, advertising, transportation and retail services); sugar (you get the idea); energy to heat the water, and other inputs (e.g., crockery) into the activity of making tea. Most of the components of each bundle could be purchased separately. The consumer herself bundles the bundles into a hot cup of tea.

In the tea example, it is important to note that the price a consumer is likely to pay for bundles such as a teabag or a quart of milk is much lower than what the consumer would pay to purchase all the various components, even aside from the cost to the consumer of assembling the components. This relationship between the price of components and the price of bundles is common, and reflects supply-side economies. One way to think about this price relationship is that customers who want highly personalized, tailor-made products have to pay a premium because they incur costs that are not spread over a large number of fellow-consumers.

Bundling occurs for a variety of reasons. Probably chief among them is that sellers can assemble parts into bundled units more cheaply and efficiently than customers. Customers get a bundled product for a lower price, which they

prefer to a self-assembled product, even though the self-assembled or tailor-made product might more closely match their own special tastes. Sellers obtain competitive advantage from offering bundles of components that are cheaper and/or better suited to the demands of various consumers, and the competitive market process tends to ensure that the driving force behind the assembly of bundles is consumer satisfaction.

A seller decides what components to bundle, and which components to offer for sale individually or in other bundles, in light of its costs and its understanding of what will appeal to customers and the current and expected future marketing strategies of competing sellers. Economists have constructed numerous abstract models of this decision-making process. These models demonstrate, in general, that a given seller's profit-maximizing marketing strategy depends on many factors, including the details of production and demand conditions. Generalizations are very difficult to come by, partly because different bundling strategies produce different impacts on one group of consumers than on another. This makes policy analysis extremely complicated. For example, while it is possible to think of assumptions about demand or cost conditions under which (imperfect) competition does not always maximize consumer welfare, these conditions do not suggest any feasible remedial policy intervention.⁹

Thus, while market power where it exists may reduce consumer welfare, bundling may make things either better or worse. As with competition, even when bundling leaves consumers worse off, it is usually difficult to specify a feasible

⁹ Similarly, bundling by a firm with any degree of market power may either increase or decrease consumer welfare (relative to simple component pricing, holding other things equal). Our point is that market power is neither necessary nor sufficient for bundling to have adverse effects on consumer welfare.

policy intervention. For example, requiring that an imperfectly competitive firm offer both a bundle and its components (mixed bundling) or no bundles, is likely to be meaningless unless prices are regulated. But no regulator in the real world is likely to be able to obtain the demand and supply information required to ensure that such firms price efficiently.

B. Pricing is an essential part of the analysis of bundling, and price regulation would be an essential element of mandated unbundling

It is important to understand that most of the Commission's questions cannot be answered meaningfully without consideration of the *prices* at which various components and bundles are offered, a daunting task. For example, what does it mean when a customer chooses a particular bundle that costs less than the sum of the individual prices of a subset of the components of the bundle? Is such a customer "required" to buy the bundle, or is the customer simply offered an opportunity to take advantage of the cost savings that result from bundling, giving up some tailoring in return? Clearly, the latter interpretation is the correct one.

More ominously, consideration of such pricing issues leads fairly directly to the conclusion that mandatory unbundling is likely to be ineffectual if it is not accompanied by regulation of prices. The Commission has ample and unhappy recent experience with unbundling requirements and associated pricing issues in the telephone industry. Those telephony-related issues are, from a technical economic point of view, almost trivial in comparison with what the Commission would face in determining regulated prices for intellectual property whose consumption is non-rivalrous. By this we mean that efficient telephone component pricing focused on long-run forward-looking incremental cost, with controversy centering on which stakeholder would bear the burden of unrecovered historical costs. In video programming, the Commission would be faced with an economi-

cally efficient price (from a demand-side perspective) of zero, but with a potentially large positive price required to induce production of the next day's programs. The incentive effects of stranded costs would not be a side show, they would be the whole show.

III. Evidence on how cable networks are sold to MVPDs

A. Existing cable network sales practices

Here we investigate whether suppliers require MVPDs to purchase bundles of cable networks. We address that question by examining the programming carried by a large sample of cable systems. The data indicate that a substantial percentage of cable systems do not carry all the program services offered by leading program suppliers such as Time Warner, Discovery, Disney and Viacom. This evidence contradicts the allegation that upstream suppliers of programming to MVPDs require MVPDs to carry all of the supplier's offerings.

Available data on the networks carried by cable systems across the country confirm that systems can and usually do choose to carry some but not all of the networks from any given program supplier. We obtained data on cable network carriage by cable system from Warren Communications.¹⁰ For our analysis, we excluded cable systems that reported carrying fewer than 35 satellite-delivered basic cable networks. It is likely that some of these systems did not report all of the networks they carry, and including such systems could overstate the extent to which certain networks were not carried. Other excluded systems may have relatively small channel capacity and, therefore, are clearly not required to carry all networks that the programming suppliers offer simply because there would not be enough channel capacity to do so.

Our analysis therefore focused on 2,455 cable systems, representing approximately 80 percent of cable subscribers, that reported carrying at least 35 sat-

¹⁰ Warren Communications News, *Televisions and Cable Factbook: Online*, June 2004.

ellite-delivered programming services on their basic and expanded basic tiers of service. (These systems typically carry broadcast channels, local origination programming, premium cable networks and pay-per-view services in addition to the basic cable networks.) Nine program suppliers that own multiple basic networks were identified, and carriage of those networks by the cable systems was examined. For each supplier of commonly-owned basic cable networks, a count was made of the number of systems carrying one network of that supplier, two networks, etc. The networks offered by each supplier are listed in Appendix A. Networks launched later than 2000 were not included with the relevant supplier. A network launched just last month, for instance, would be too recent to be reflected in the data, if carried at all. In addition, in a test of the proposition that network suppliers require MVPDs systems to carry all the supplier's programming, a recently launched network might not be carried because an MVPD's current carriage agreement may have been signed before the network was launched.

Table 1 shows, for various network suppliers, what portion of cable systems that take any of the supplier's networks take all of its networks. This can be seen in the far right-hand column. For instance, of the 2,454 systems that carried any A&E network, 1,185 or 48 percent carried all four A&E networks. In other words, more than half of the systems carrying any A&E network declined to take all the A&E networks. For most of the other network suppliers shown in Table 1, far less than 50 percent of the systems taking any network carried all the networks. This means that for most suppliers shown, the overwhelming majority of systems declined to take all the networks.

Table 1: Percentage of systems carrying at least quarter, half or more, three-quarters or all the basic cable networks, by supplier group

Supplier	Percentage of cable systems carrying indicated proportion of supplier's networks			
	One quarter or more	Half or more	Three quarters or more	All
A&E	100%	98%	53%	48%
Cablevision	100%	74%	55%	25%
Comcast	100%	83%	69%	41%
Discovery	97%	74%	71%	5%
Disney	100%	96%	62%	23%
Fox	100%	90%	74%	39%
Lifetime	n.a. [‡]	100%	n.a. [‡]	50%
Time Warner	100%	100%	74%	4%
Viacom	98%	67%	13%	0%
[‡] Lifetime has only two networks included in this analysis, so the one quarter and three quarter columns are not applicable.				

The data underlying Table 1 also show that network suppliers sell their networks in many different combinations and on a stand-alone basis. To take Cablevision, which owns four networks, as an example, 26 percent of sample systems carried only a single Cablevision network, 19 percent carried only two Cablevision networks, 30 percent carried only three, and 25 percent carried all four Cablevision networks. This pattern probably understates the diversity of offered “bundles,” because systems that carried the same number of Cablevision networks would not necessarily have taken the same networks.

Several of the questions in the Public Notice appear to link “bundling” by programmers selling their networks to MVPDs with “bundling” by MVPDs providing networks to consumers. Linking these two issues may reflect a misunderstanding. Whether or not MVPDs are required to purchase certain bundles of networks from network suppliers has no necessary connection to whether MVPDs will offer the networks to their subscribers bundled or à la carte. MVPDs have

flexibility in the way they purchase their programming from suppliers, as shown in Table 1, and MVPDs offer basic programming in tiers or bundles. Even if, hypothetically, an MVPD were required to carry all of a supplier's networks if it chose to carry any network in the group, this would not change the MVPD's decision about whether to offer those networks to subscribers bundled or à la carte. Alternatively, if a network supplier were prohibited from selling any of its networks as part of a bundle, the MVPD could still bundle the networks it carries. In short, there is no particular connection between wholesale and retail bundling in this context. Of course, any higher prices and reduced program quality effects introduced by regulations aimed at preventing bundling at the wholesale level will be passed through to retail consumers.

B. Should cable networks be prohibited from bargaining for tier placement?

We also set out to investigate whether program suppliers now require MVPDs to place particular networks on particular tiers. For the reasons set out below, we do not believe that it is possible to answer this question empirically, at least in the time available. We conclude that it would be rational for competitive suppliers of cable networks to offer substantially lower license fees to MVPDs who agree to carry particular networks on particular tiers.

Cable networks compete with each other not only in the compilation and sale of programming but also in the sale of advertising. Each network's competitive strategy includes the type and quality of programming it offers, the size and demographic composition of the audience it aims to produce for sale to advertisers, a marketing strategy, and the prices it will offer to MVPDs for its programming and to advertisers for its audiences. Given the large number of competing program services and the ease of entry, marketing a cable network is a complex and risky endeavor.

A supplier chooses its own competitive strategy based on an assumption about whether the network will be bundled with other networks or will be sold à la carte by MVPDs. A given supplier would adopt one national promotional and marketing strategy, and associated pricing and programming decisions, if the network were offered as part of a tier by MVPDs, but probably an entirely different competitive strategy if the network were sold à la carte by MVPDs. Both promotion of the network and programming purchased or produced for the network are necessarily national decisions; they cannot easily be varied geographically. The same is true of national advertising sales. A supplier therefore will be at a disadvantage in competition if its programming service is not marketed uniformly by all MVPDs.

It is therefore understandable that suppliers would seek to ensure that their cable networks are carried on commensurate tiers on all MVPDs. Other things being equal, this policy gives each network an equal foundation to succeed in competition with its rivals.

Nevertheless, the benefits of uniform national placement of a given network are not infinitely large. At least in principle, there is some price that an MVPD could offer to pay that would compensate a supplier for the losses it would sustain as a result of non-standard tier placement by that MVPD. Thus, a supplier might offer its cable network at a given price to an MVPD, but also offer a substantial discount for the MVPD's acceptance of a contractual obligation to carry the network on a given tier or to carry additional networks. MVPDs might interpret or characterize such offers as requiring them to offer a given network as part of a given tier.

There is no guarantee that the maximum price an MVPD would be willing to pay for a given cable network to be retailed à la carte would be greater than the

minimum price that would compensate the network supplier for the costs that a less uniform marketing strategy would impose. In the real world, firms with limited time and resources do not offer hypothetical bargains that they know in advance will likely be unacceptable. Thus, we would not necessarily expect to find evidence of actual offers or negotiations of this kind. In any event, such evidence is not publicly available, and might have to be obtained through interviews and other such techniques. Even if such evidence were obtained, it would shed little useful light on any public policy issue, because the pricing pattern indicated could easily arise under competitive behavior on the part of program suppliers. Thus, efforts by suppliers to ensure that their networks are marketed in a uniform way at retail cannot be interpreted as anticompetitive or harmful to consumer welfare.

IV. Effects of unbundling on the economics of a basic cable network

We turn next to whether the MVPD practice of offering bundles or tiers of services to retail subscribers is harmful to consumers. And more specifically, what would be the effect on cable networks and consumers of a regulation requiring MVPDs to offer all programming à la carte, either by network or by program, with or without continued bundling?

The first part of this question was addressed at a conceptual level in Section II above. Bundling is a universal feature of the economy, and greatly improves consumer welfare by enabling consumers to share the fixed costs of creating goods and services from component parts.¹¹ Based on current knowledge, there is no more reason to assume that bundling of cable networks into tiers is harmful to consumers than it would be to assume that bundling individual programs into schedules (i.e., networks) is harmful, or that bundling tires with new cars is harmful.

The second part of the question requires simulation of the operation of the industry under conditions different from today's circumstances. That is, an assessment of the impact of bundling and pricing practices requires a specific counter-factual or "but-for" world. An initial issue is what regulatory change is being contemplated. The Public Notice does not make clear exactly how MVPDs might be required to unbundle the networks they offer to subscribers. The following are some possibilities.

¹¹ Nevertheless, it is possible to construct hypothetical circumstances in which bundling is harmful. These circumstances are technical, not easily characterized, and differ from one market to another.

1. Pure à la carte—all cable networks must be sold individually and MVPDs may not bundle networks within or beyond the basic “broadcast only” tier. (We assume that, due to government-mandated must carry rules, broadcast networks and PEG channels would continue to be bundled on a basic service tier. We also assume for simplicity that any à la carte requirement would not extend beyond networks, that is, would not require each program to be priced individually, even though there is no obvious logical reason to stop at the network level.)
2. À la carte with bundling permitted—MVPDs are required to offer all cable networks à la carte and also permitted to offer certain bundled packages of some or all of the networks.
3. Limited à la carte—MVPDs are required to sell only certain networks, or certain types of programming (e.g., ESPN or sports more generally), à la carte.
4. Theme tiers—MVPDs are not required to price à la carte, but must create theme tiers that could be individually purchased.

We believe that all of these options will have similar effects since they all involve an element of unbundling. Therefore, we begin by examining pure à la carte. Under pure unbundling, the MVPD charges a flat fee for the basic service tier—consisting of broadcast television and PEG programming—and offers all other programming à la carte. In Section VI we discuss how the existence of theme tiers or a mixture of à la carte and tiers would alter our conclusions. The analysis focuses on how programming suppliers might be affected by unbundling and what impact this might have on consumers. The impact on MVPDs, or the

exact response of MVPDs to changes in wholesale program pricing, is not studied in detail.

This section explores the effects of mandatory unbundling on the economics of a basic cable network in a partial equilibrium framework. The effects unfold as a multistage process, with the impact from one stage influencing the next stage. The process starts with consumers' decisions whether to subscribe to the network. An overview of the sequence of the stages and the impact at each stage is as follows:

- Stage 1: Subscribers—If a cable network were taken off a tier and offered à la carte it would likely lose subscribers. The consumers that choose to subscribe will likely have been heavy viewers of the network.

- Stage 2: Reach—Given a reduction in subscribers, a cable network's audience will decline. In addition, the network's reach will decline because non-subscribers cannot readily sample the network. The network will be placed at a greater disadvantage in attracting advertising relative to the broadcast networks, which are distributed to virtually all television households.

- Stage 3: Viewers—Networks sell audiences to advertisers. A reduction in subscribers will reduce viewing. For each network, typically there are heavy viewers, medium viewers, light viewers and non-viewers. The percentage of each type varies by network. Since heavy viewers are more likely to choose to subscribe, the reduction in viewers will be less than the reduction in subscribers. Nonetheless, the loss of light and possibly medium viewers will significantly reduce a network's overall viewership, and reduce the ease with which the network can expand viewing by making changes in programming and promotion.

- Stage 4: Advertising Revenue—Advertising revenue depends on distribution (the number of subscribers regardless of how much they watch), viewers, and CPM. To an approximation, a cable network’s advertising revenue will decline by about the same percentage as its viewership. However, the decline in the network’s distribution and other factors will also affect the network’s ability to generate advertising revenue.

Unbundling will also affect a cable network’s economics in other ways. This section discusses the following two:

- Hit Programs—A network’s ability to create and grow a hit program will be reduced since consumers that do not subscribe to the network cannot easily sample the network’s programming. This will limit a network’s ability to increase subscribership and advertising revenue.

- Marketing Costs—A network will incur additional costs associated with generating consumer demand for the network. These additional transactional marketing costs would likely be hundreds of million of dollars a year.

All of these effects will put pressure on a network to generate additional revenues from subscribers. The effect of unbundling on subscriber prices is explored in Section V.

A. Consumer demand for basic networks

When consumers purchase a bundled tier of networks from an MVPD, they pay a single price for the bundle but no explicit price for the individual networks contained in the bundle. Moving to an à la carte regime would obviously drastically change this arrangement. In some sense, consumers that receive a bundle of networks for a single payment may view each of the individual networks as

having a zero price, because there is no incremental cost to viewing any of the networks within the bundle. With unbundling, consumers will be asked to move from an effective zero price for a network to some positive price for that network. In addition to the explicit price for subscribing to an additional network, there would be an implicit associated transaction cost. This pricing change is so dramatic that current consumer behavior regarding basic networks provides virtually no information about behavior in an à la carte world. Specifically, it is difficult to estimate what portion of consumers would choose to subscribe to a given network at various alternative à la carte prices set by their MVPDs. The effect is likely to differ across networks, may vary depending on whether the network provides niche programming or general interest programming, and may depend on the number of other networks that offer a similar type of programming.

It is probably reasonable to assume that if a cable network were taken off a tier and offered à la carte, other things being equal, it would lose subscribers. At any positive price set by the MVPD, the consumers most likely to decline to take the network à la carte would probably be those who viewed the network least intensively when it was offered as part of a tier. Among the consumers who would be lost from the subscriber base are those that rarely or never watch the network and would pay only a modest amount to preserve their option to watch the network occasionally or for special events.¹² If the price for the network were somewhat higher, some consumers that previously viewed the network to a greater but still small extent would also choose not to subscribe à la carte. The consumers

¹² There may be some networks, such as the Weather Channel and the various cable news networks, that are valued chiefly as an option. The impact of à la carte pricing on such channels depends on the ease with which consumers expect to be able to subscribe to it when a relevant contingency arises, such as a serious storm.

that choose to subscribe à la carte will include those that place a relatively high value on the network. Because incremental subscribers do not increase program production costs, the cable network will attempt to maximize revenue.¹³ The price that accomplishes this depends on the elasticity of demand at various points on the demand curve for each cable network.

Appendix B summarizes some recent economic studies that have examined consumers' willingness to pay for basic cable networks. It also reviews the current pricing and subscription rates for three premium services. We find that the available evidence is not sufficient to predict the demand curve for individual networks under à la carte pricing.

In addition to the obvious changes in marketing and pricing strategies that would be imposed on program suppliers by à la carte pricing, there would be a significant reduction in consumer awareness of competitive options, as described above. To illustrate, imagine what would happen if newspapers were required to offer each section of their publication à la carte. Subscribers who now glance at, but do not read, certain sections would lose their current awareness of the content of such sections. When and if such content becomes relevant, they would have to engage in a relatively costly search process.

¹³ There are, however, positive transactional and perhaps incremental marketing costs. See herein at Section IV.C. Further, while program costs are fixed in the short run and do not vary with audience size, program costs are endogenous in the long run. Other things being equal, in equilibrium attracting larger audiences will require higher program expenditures.

B. Cable advertising rates and revenues

1. Overview

On the one hand, there appears to be a belief held by some individuals that if the number of subscribers to a cable network were reduced by some percentage due to unbundling then the network's advertising revenue would be reduced by the same percentage. On the other hand, some other individuals appear to believe that if a cable network is sold à la carte it will lose only those current subscribers who do not watch the network, or only rarely watch the network, and therefore there will be only a negligible impact on the network's advertising revenue. This section explores the relationship between subscribers, viewers, and advertising revenue.

The hypothesized proportional relationship between tier subscribers and network revenue might roughly hold when a reduction in subscribers is due to MVPD systems no longer carrying a given network. But the proportional relationship is unlikely to hold if the reduction in subscribers is due to consumers' self-selecting to subscribe under an à la carte regime. Advertisers obviously care about the number of viewers and their demographic characteristics. Self-selected subscribers are more likely to view the network than the average tier subscriber. However, unbundling will still produce some reduction in a network's advertising revenue, because there will be a reduction in viewership due to the fact that not all viewers of the network when it was part of the bundle will subscribe to the network if it is sold à la carte. Having fewer viewers reduces advertising revenue because it lowers both the number of viewers and the advertising rate paid per viewer.

Reducing an audience will not normally increase the total value of the audience to advertisers unless the audience thereby becomes demographically more homogeneous in a way that is useful to advertisers. For example, some non-golfers may watch The Golf Channel, but moving The Golf Channel to à la carte might eliminate all but the avid golfers from the audience, potentially making advertisers of golf clubs willing to pay more per viewer—but advertisers of automobiles, beer, etc. inclined to pay less. Whether this exception is important is an empirical issue. However, most advertising revenue, even for such specialized magazines as *Golf World*, is **not** from specialized advertisers, but rather from the major marketers, and the same is true of specialized cable networks.

2. Cable network reliance on advertising revenue

The impact of any reduction in advertising revenues caused by unbundling will likely vary widely across cable networks. Some basic cable networks depend on advertising for most of their revenues, while others are much less dependent on advertising. Kagan Research has estimated 2003 net advertising revenue and total net revenue for 107 basic cable networks.¹⁴ See Table 2. At the extremes, over a dozen of these networks rely on advertising for less than 10 percent of revenue, and there are a couple of networks that are estimated to have no revenue other than advertising. The median value of advertising revenue as a portion of total

¹⁴ Disney, Fox Movie Channel, and Turner Classic Movies were included as having zero reliance on advertising although this was not explicitly reported by Kagan. Chronicle DTV was excluded as it was reported by Kagan to have zero Net Advertising Revenue and zero Total Net Revenue. Blackbelt TV was excluded as it was reported by Kagan to have no subscribers. Nick Too was excluded because it is a time-shifted feed of Nickelodeon/Nick at Nite. Sundance Channel was excluded because it is a premium service. Source: Kagan Research, LLC, *Economics of Basic Cable Networks 2005: Key Spreadsheets*, June 2004.

network revenue was 44 percent and the mean value was 41 percent.¹⁵ It may be that some of the networks that receive nearly all or nearly none of their revenue from advertising hope to move away from these extremes over time. However, at any given time, as in this 2003 “snapshot,” there are many networks at various points on this spectrum that would be affected differently by a decrease in advertising revenue.

Table 2: Basic cable network advertising revenue as a percentage of total revenue

Advertising as a percentage of revenue	Number of networks
0 – 9.99	15
10 – 19.99	5
20 – 29.99	10
30 – 39.99	18
40 – 49.99	15
50 – 59.99	23
60 – 69.99	10
70 – 79.99	7
80 - 89.99	2
90-100	2
Total	107

Advertising revenue is net of agency fees.

This diverse picture is much the same for networks of all sizes. For instance, among the networks that Kagan Research reports as having 80 million or more subscribers in 2003, the percent of revenue attributable to advertising ranged

¹⁵ This is consistent with the GAO finding that “cable networks obtain roughly half of their overall revenues from advertising.” (GAO, *Issues Related to Competition and Subscriber Rates in the Cable Television Industry*, October 2003, at 30.) It is not clear if GAO used net or gross advertising revenue in making its estimate.

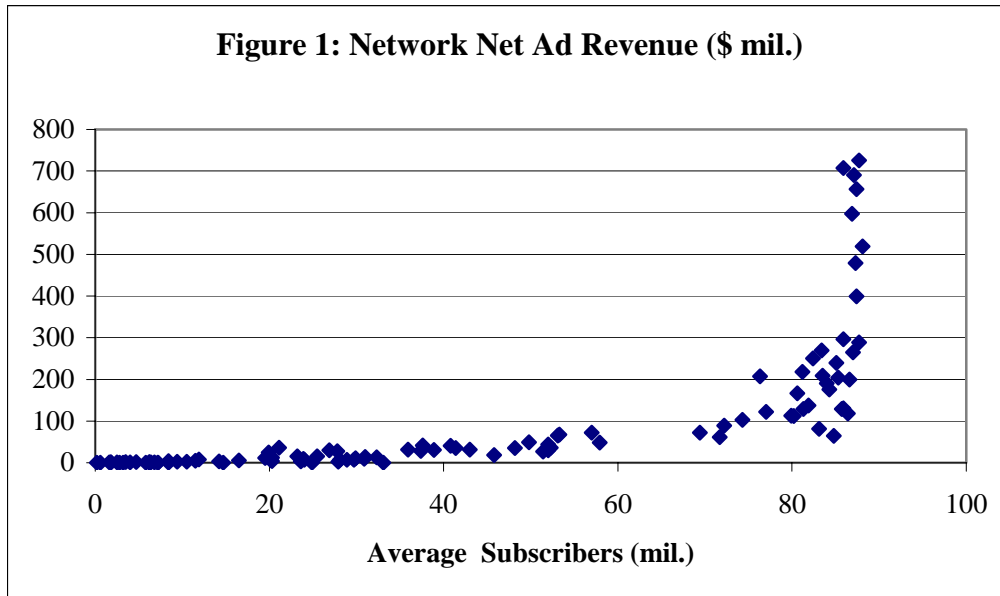
from 83.7 percent (Home & Garden Television) down to 22.9 percent (American Movie Classics), and Disney with no advertising.

3. Variation in cable advertising rates and revenues

Two of the key factors in determining the advertising revenues of a basic cable network are its distribution (i.e., the number of subscribers to the programming tier that contains the network) and its viewership (as reflected in ratings or estimates of ratings). The network's distribution is the set of all consumers that have the opportunity to view the network at any given point in time. Some portion (in many cases a very small portion) of these potential viewers actually watch the network.

Network advertisers are interested in getting their messages to consumers. As the number of viewers that a network can provide increases or decreases, a network's value to advertisers and the revenue that a network receives from advertising likewise increases or decreases. Discussions with Viacom advertising sales personnel indicated that currently, as a rule of thumb, a cable network needs a subscriber base of approximately 50 million households in order to gain a significant amount of national advertising. One reason for this is that national advertisers prefer broad reach and it is at the 50 million subscriber level that the network is available to about half of all TV households. Additionally, national advertisers are interested in a network's ratings, and while Nielsen provides ratings information for networks starting at about 20 million to 30 million subscribers, the ratings numbers become more statistically reliable when a network reaches about 50 million subscribers. This is due to the fact that the Nielsen rating system is based on a sample of households. Fewer subscribers to a network means that there are likely fewer Nielsen households that report on the network, and as sample size decreases uncertainty increases.

Kagan Research has estimated the annual advertising revenue for 105 basic networks.¹⁶ Figure 1 depicts net advertising revenue in 2003 for these 105 networks plotted against their subscriber bases. As Figure 1 makes clear, advertising revenue is not a linear function of tier subscribers.

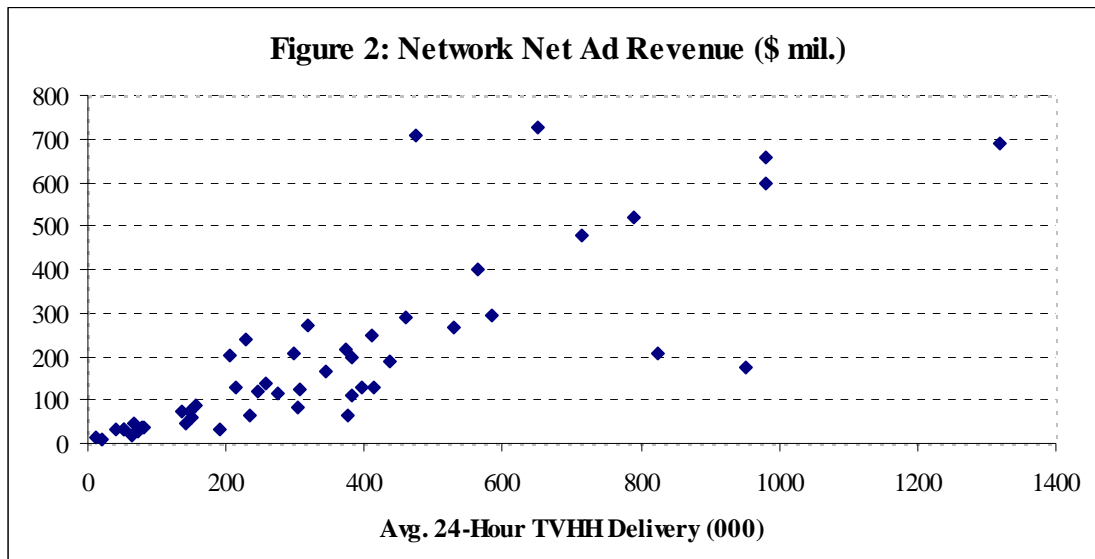


Though the size of the subscriber base is important, it is not the only factor explaining a network's advertising revenue. Figure 2 shows net advertising revenue plotted against the average 24-hour number of television households delivered for 49 cable networks.¹⁷ This indicates that the number of households viewing a network is a key determinant of the network's advertising revenue. This

¹⁶ Kagan Research, LLC, *Economics of Basic Cable Networks 2005: Key Spreadsheets*, June 2004. This excludes those networks that do not sell advertising.

¹⁷ Id.

simple analysis does not hold constant the demographics or the desirability of the network's audience to advertisers.



4. Impact of à la carte pricing on advertising revenue

As discussed above, if a basic cable network were to be dropped by some MVPD systems, the number of actual viewers would likely decrease in about the same proportion as the decrease in the total subscriber base. However, in the case of a cable network being taken off a tier and offered à la carte, this assumption is not correct. At any positive price set by the MVPD, the consumers most likely to decline to take a network à la carte will be those who viewed the network least intensively when it was offered as part of a tier. Among the consumers who would be lost from the subscriber base are those that rarely or never watch the network and would pay only a modest amount to preserve their option to watch the network occasionally or for special events. If the MVPD's price for the net-

work were somewhat higher, some consumers that previously viewed the network to a greater but still small extent would also choose not to subscribe à la carte. The viewers who choose to subscribe à la carte will include those who place a relatively high value on the network, and it is reasonable to assume (although of course not universally correct) that such viewers watch the network when offered on a tier more than the average tier subscriber.

For these reasons, the reduction in a network's subscriber base is likely to exceed, in percentage terms, the decline in its viewing audience. For a simplified hypothetical illustration, suppose that, when offered by MVPDs as part of a tier, Network X routinely attracts 500,000 viewing hours in the course of a 24-hour day. Suppose further that tier subscribers can be broken into eight equal-sized segments, each with differing propensities to watch the network. The number of average daily viewing hours coming from each segment is depicted in Table 3.

**Table 3: Viewing hours for a hypothetical tiered Network X,
by subscriber segment**

Segment	1	2	3	4	5	6	7	8	All
Viewing Hours	0	0	0	25,000	50,000	75,000	150,000	200,000	500,000

Now suppose in this hypothetical illustration that 75 percent of Network X's subscriber base chooses not to subscribe when MVPDs offer the network à la carte. The 75 percent of subscribers who are lost will include all the subscriber segments that viewed the network seldom if ever. Segments 1-3 in Table 3 represent these subscribers. Segments 4-6 would also be lost, which would decrease average daily viewing hours by 150,000, or 30 percent of the initial 500,000

level.¹⁸ The remaining two segments would provide a daily audience of 350,000 viewing hours. Thus, as a first approximation, a 75 percent decrease in the subscriber base of this hypothetical network would result in only a 30 percent reduction in viewing hours. As a rough estimate, advertising revenue would decrease by 30 percent in this hypothetical example. Of course the pattern of viewing across subscribers varies by network. Some cable networks may have most of their viewing concentrated within a small group of subscribers, while other networks may find their viewing is spread across a large group of subscribers. Reducing an audience is unlikely to increase CPMs. Many of the advertisers on a network sell products that appeal to a broad audience and purchase time in order to reach a broad audience. For such advertisers, there is little or no benefit, and perhaps a disadvantage, from reducing the audience. In addition, many networks are general interest networks and shrinking the audience for such a network probably would not change the overall make-up of the audience in a way that makes the audience more attractive to advertisers.

The loss of advertising revenue when moving to an unbundled environment may be more than proportional to the reduction in viewing. On a per-viewing-hour basis, the audience Network X offers advertisers in the à la carte environment will tend to be less valuable because it is smaller. As explained above, advertisers value unduplicated reach, and pay a premium for a larger audi-

¹⁸ This simplified hypothetical obviously omits other factors such as income that would affect which consumers choose to subscribe to a channel à la carte. It is not necessarily the case that all consumers who view a network at a low level would decline to take it à la carte, nor is it necessarily the case that all consumers that view a network most intensively would choose to take it à la carte.

ence. For this reason, a 10 percent increase in audience size will produce a greater than 10 percent increase in advertising revenue.¹⁹

Another aspect of advertising that would likely be affected by à la carte pricing is the ability of a “hit show” to be discovered and grow its audience. Part of the hit show phenomenon is that a program can quickly attract viewers. Many of these new viewers are likely to be infrequent viewers of the network, but nonetheless have access to it. When the network is part of a tier, these infrequent viewers can quickly and easily switch to the network and watch the program. After sampling the programming on the network, these viewers may then become more frequent viewers of the network. However, if the network were sold à la carte, there would be a longer delay and perhaps a smaller response because switching would now be more involved and the costs of switching would be higher. This would reduce the network’s ability to generate audiences and advertising revenues from a hit show.

C. Other costs due to unbundling

In addition to the possible reduction of advertising revenues, there are various costs that networks, MVPDs and consumers are likely to incur when cable networks are offered à la carte. This subsection examines the nature and magnitude of some of those additional costs based on data and information provided by

¹⁹ This effect was demonstrated empirically by Franklin M. Fisher, John J. McGowan and David S. Evans in “The audience-revenue relationship for local television stations,” *The Bell Journal of Economics*, Autumn 1980, pp. 694-708.

Showtime Networks Inc. (a subsidiary of Viacom), which is attached as Appendix C.²⁰

A cable network will face additional marketing costs, once unbundled, because it must now sell its programming to consumers as well as to MVPDs. The network must compete with dozens, if not hundreds, of other networks for the consumer's selection. MVPDs and consumers will face increased costs as well. Cable operator costs may increase due to the need for additional addressable converters, additional headend equipment, increased marketing costs, increased customer service costs, increased technical costs, and increased costs associated with customer ordering and billing. At least a portion of these increased costs will likely be passed on to subscribers. MVPDs will also likely face a reduction in advertising revenues due to fewer subscriptions.

Consumers will face increased search costs, as they must now learn about the various cable networks in order to determine which ones to select. Consumers will also face a probable loss of some existing networks and program services, a reduction in the number of new networks and program services entering the market, a lost option value to view infrequently watched programming on networks no longer subscribed to, and additional equipment costs. As the GAO pointed out, the need for subscribers to have an addressable converter box could be costly.²¹ According to the FCC's 2002 cable rate survey, the average monthly rental price for a digital converter box and remote control is \$4.87.²² Subscribers with multi-

²⁰ Showtime Networks, *The Impact of A la Carte Pricing on Multichannel Video*, July 2004.

²¹ GAO, *Issues Related to Competition and Subscriber Rates in the Cable Television Industry*, October 2003, at 32.

²² FCC, *Report on Cable Industry Prices*, MM Docket No. 92-266, July 8, 2003, at Table 10.

ple television sets would need multiple converter boxes. The average American television household has about 2.5 televisions, and hence could face an equipment cost of over \$12 per month in order to have access to à la carte networks.²³

Currently, much of a cable network's marketing is directed at MVPD systems, with consumer-directed marketing designed to improve ratings for specific programs. However, in an à la carte regime, a network's marketing focus would need to change to the consumer to generate consumer demand for the network. The network as a whole would have to be marketed, not just specific programs. A cable network's additional costs would consist of transactional marketing expenses and the associated sales organization, business operations, human resources costs and associated auditing costs. Transactional marketing is a program of tactics, activities and resources designed to generate subscriptions to an à la carte network by stimulating consumer demand and influencing consumer choice at the point of sale. These tactics include consumer rebates, free previews, promotional offers, telemarketing, direct mail, customer contact personnel (CCP) sales incentives, CCP training and awareness tools, and distributor incentives to favorably price, package and promote the network such as volume and penetration discounts, retail price incentives and cash marketing support. In addition to these transactional marketing expenses, there are associated costs of the personnel needed to implement the transactional marketing program. For the most part, these transactional and associated marketing costs would be in addition to the existing advertising and marketing expenses incurred by a cable network. Indeed,

²³ Kagan Research, *Digital Television*, April 29, 2004, p. 5. Note that some households, particularly those subscribing to a direct broadcast satellite service, a digital tier of service, or a premium service, may already have a converter box for some of their television sets. These households would need a converter only for any television that is not currently equipped with a converter box.

advertising and marketing expenses may also increase in an à la carte regime as networks compete to get noticed by consumers.

Showtime Networks' analysis of the annual connects and transactional marketing expenses for the premium movie network category consists of Showtime Networks (Showtime, The Movie Channel, Flix), Home Box Office (HBO, Cinemax), and Starz Encore Group (Starz, Encore). Showtime Networks determined that the average annual transactional and associated marketing costs per connect for the premium network category as a whole is about \$11.25.

This estimate is likely to be understated because \$11.25 is the average cost when one premium network supplier is competing principally against only the other two existing major premium network suppliers. The transactional costs would likely be much higher if the network had to compete against the hundreds of other networks available on an unbundled basis. Moreover, the transaction costs likely would be higher as the recently unbundled networks scramble to attract initial subscribers. The \$11.25 estimate is based on maintaining a given level of subscribers using the well-established marketing expertise of the premium networks. For these reasons, Showtime estimates that the average annual transactional and associated marketing costs per connect for an unbundled network would average about \$16.90.

One way to estimate the total transactional and associated marketing costs that would be incurred were a cable network to be offered à la carte instead of as part of a tier is to consider the number of subscribers to the network and the churn rate. Churn is defined as the percentage of households that discontinue their subscription to the network each month. If a network wants to maintain its number of subscribers, much less grow, it must replace those subscribers it loses to churn.

Showtime Networks determined that the average monthly churn rate for Showtime, The Movie Channel, HBO, Cinemax and Starz is currently 5.9 percent.

Consider a network with 25 million à la carte subscribers. If the network's monthly churn rate is the same as that for those five premium networks, 5.9 percent, then the average annual "replacement" connects needed just to maintain the subscriber base are 17.7 million households. Using an estimate of \$16.90 per connect, the annual transactional and associated marketing costs incurred by the network would be about \$300 million just to maintain its subscription level of 25 million.

V. Effects of unbundling on prices paid by subscribers

As noted above, one cannot confidently predict all the effects that would result from a change in the way that cable programming is sold to consumers. The retail bundling of cable networks is part of a complex system of interrelated economic decisions that involves program quality and marketing as well as pricing, as described above. In addition, the competitive interactions among networks are also important, as are the individual network pricing decisions made by the MVPDs.

The available evidence is not sufficient, even leaving aside the general disequilibrium into which the entire industry would be thrown by mandated unbundling, to predict exactly what prices would prevail for individual networks in a pure à la carte world. It does seem reasonable to expect, however, that any MVPD subscriber who sought to subscribe to the same array of networks now available on any given tier would pay more, and quite likely much more (because of the lost advertising support, decreased subscription revenue and increased marketing costs) to receive the current quantity and quality of programming, and that is indeed the result that emerges from the modeling exercise in this Section. The model indicates that consumers who subscribe to a moderate or large number of networks will end up paying more, while consumers who subscribe to only a few networks may pay less. However, in the longer run, there is no guarantee that the networks preferred by the latter group will remain in existence.

A complete general equilibrium model of consumer demand, network programmer supply, and MVPD system pricing is beyond the scope of this paper. But in order to provide some gauge of possible impact on consumer prices, we develop a simple model of the effect on subscriber prices of imposing à la carte. We do not check to see whether the resulting predictions of prices are consistent

with a competitive equilibrium. While we have made some simplifying assumptions in order to arrive at our estimates, the results are nonetheless instructive.

The analysis that follows focuses on the 110 cable networks for which Kagan Research provides 2003 data.²⁴ The analysis begins with an assumption as to the percentage of current subscribers that would continue to subscribe if à la carte pricing were required. We have selected three different subscriber retention rates: 10 percent, 20 percent, and 30 percent.²⁵

For the reasons discussed in Section IV.B, there is likely to be some loss of advertising revenue if unbundling is required. In order to account for the effect of lost advertising revenue on wholesale cable pricing, we have selected three different levels of advertising revenue retention: 80 percent, 60 percent, and 40 percent. Our assumption is that those consumers who continue to subscribe to a particular cable network under à la carte are the core viewers of the network. Hence, regardless of how many subscribers are retained, it is likely that the percentage loss in advertising revenue will be less than the percentage loss in subscribers.

As discussed in Section IV.C, programmers also are likely to incur additional marketing costs if à la carte pricing is imposed. In order to account for that effect on wholesale network pricing, we have estimated the additional transactional marketing and associated costs of each network. We assume that a network's monthly churn rate is the same as that for the existing premium networks, 5.9 percent, and that the average transactional marketing and associated costs are

²⁴ Kagan Research, *Economics of Basic Cable Networks 2005: Key Spreadsheets*, June 2004.

²⁵ These values seem to cover the reasonable range of subscriber retention given the current take rates of the premium cable movie networks. See Appendix B.

about \$16.90 per connect per year. Therefore, the additional expense the network incurs to replace those subscribers it loses to churn is about \$1.00 per subscriber per month.²⁶

In the real world, networks can respond to unbundling in a variety of ways. To facilitate an illustrative analysis, we assume that networks will raise license fees in order to offset any decline in subscriber or advertiser revenues and any increase in marketing costs, rather than lowering program expenditures. These assumptions permit us to calculate a network's wholesale price (license fee) to the MVPD systems. We then assume that MVPD systems apply a uniform 90 percent markup over wholesale price to calculate each network's à la carte retail price.²⁷

Using these assumptions, we estimate à la carte retail prices for each of the 110 networks. We then compute the average price of a network under à la carte

²⁶ The annual cost to replace subscribers lost to churn equals $\$16.90 \times 5.9\% \times 12 \times \text{subscribers}$. Therefore, the cost per subscriber per month equals $\$16.90 \times 5.9\%$, or about \$1.00.

²⁷ The assumption of 90 percent markup appears to be in line with current MVPD markups. NCTA estimated 2003 basic cable subscriber revenue at \$28.962 billion and 2003 premium subscriber revenue at \$5.192 billion. (NCTA, *Cable Developments 2004*, p. 14.) Basic cable subscribers were reported at about 73.4 million in 2003. (NCTA, p. 8.) This implies basic and premium subscriber revenues of \$38.79 per subscriber per month. In its 2002 cable industry survey, the FCC found that the average price of the basic service tier was \$14.45. (FCC, *Report on Cable Industry Prices*, MM Docket No. 92-266, July 8, 2003, at Table 1.) This implies that subscribers paid about \$24.34 per month for the programming beyond the basic service tier. Total cable programming expenditures, including license fees, copyright fees and investments in local original programming, was estimated at \$11.46 billion, or \$13.02 per basic subscriber per month. (NCTA, p. 13.) The markup of \$11.33 over programming costs implies an estimated markup of 87 percent. This estimate understates the actual markup. The basic service tier often includes some basic networks, so some of the \$14.45 should be considered payments to networks. The payment to networks or \$13.02 is overstated because programming expenditures include local programming expenditures. Making these adjustments would increase the estimated markup.

pricing.²⁸ The results are presented in Table 4. For example, assuming that networks increase subscriber fees to recover lost subscriber and advertising revenue and increased transactional marketing costs, that networks retain 30 percent of their subscribers and 80 percent of their advertising revenue, and a 90 percent markup of the wholesale price, the average price of a network under à la carte pricing would be \$3.39.

Table 4: Weighted average retail price of a network under à la carte pricing

Advertising Revenue Retention	Subscriber Retention		
	30%	20%	10%
80%	\$3.39	\$4.13	\$6.37
60%	\$3.61	\$4.46	\$7.03
40%	\$3.83	\$4.79	\$7.70

As either the advertising revenue retention rate or the subscriber retention rate falls, the average price of a network increases. A decline in subscriber retention rates from 30 percent to 20 percent, holding the advertising revenue retention rate constant, increases the average price of a network by slightly less than \$1.00, but a decline from 20 percent to 10 percent increase the average price of a network by over \$2.00 to almost \$3.00. If the advertising revenue retention rate declines from 80 percent to 60 percent, holding the subscriber retention rate constant, the average price of a network increases by 22 cents to 66 cents; a decline from 60 percent to 40 percent has the same effect.

²⁸ Throughout this section, the average price of a network is computed as the subscriber-weighted average price of the 110 networks included in the analysis. All prices reported are retail prices.

For comparison, consider that currently the average retail price of a network is \$0.38.²⁹ Hence, after unbundling, the average retail price of a network is estimated to be 9 to 20 times higher than it is currently.

At the mid-point of the ranges considered—20 percent subscriber retention and 60 percent advertising revenue retention—the average price of a network is \$4.46. At this price, the average cost per subscriber (exclusive of the basic tier fee and converter box fee) for 10 à la carte networks would be \$44.60.³⁰ Adding the cost of the basic service tier and one converter box, the average consumer would pay \$63.92 for basic service and 10 cable networks.³¹ This is over 50 percent higher than the Commission’s estimated 2002 average programming and equipment charge of \$40.11 for basic service, equipment and 46 satellite delivered cable networks.³²

It is possible that instead of raising license fees a network may respond by decreasing programming expenditures. However, any decrease in program quality is a cost to consumers, equivalent to a price increase. It is also quite possible that a network may not be able to recover from the decrease in revenues and increase in costs and may simply fail. Absent much better information on consumer de-

²⁹ This is based on Kagan Research’s estimates of subscribers and license fees for each of the 110 networks, and assumes a 90 percent retail markup of license fees.

³⁰ At least one study found that the average cable subscriber watches 12 to 15 channels. *See*, Concerned Women for America, “Cable Choice is Channel Choice,” 2004. Since these channels probably included the broadcast networks, we use 10 cable networks in this example.

³¹ In its 2002 cable industry survey, the FCC found that the average price of the basic service tier was \$14.45 and the average price of a digital converter box was \$4.87. FCC, *Report on Cable Industry Prices*, MM Docket No. 92-266, July 8, 2003, at Tables 1 and 10.

³² *Id.*

mand for individual networks, as well as assumptions about the nature of and the path to the new industry equilibrium, it is not possible to predict which networks will fail. But it is reasonable to believe that at least some networks will be forced out of existence by unbundling.

C. Effect of unbundling on the number of cable networks

Finally, a natural question is whether the overall number of cable networks will increase or decrease as a result of unbundling, and whether entry costs for new networks will increase or decrease. As with the issues addressed above, a more extensive and speculative modeling effort would be required to answer these questions precisely. It is clear, however, that the short-run or partial equilibrium effect of unbundling would be to reduce the number of networks and to increase entry costs. The number of networks would likely decrease because the models above predict both decreasing revenues and increasing costs for individual cable networks required to be unbundled. As is well known, many cable networks are, for a variety of reasons, unprofitable or marginally profitable. At least some of these networks will be forced out of existence by unbundling. Further, it is possible that there would be a reduction in aggregate expenditure on programming by the surviving networks, which would presumably result in a reduction in average program quality.

As to entry, it appears that new entrants would have a more difficult time than at present because tier subscribers would not be able to sample or “surf” their programs, but would instead have to commit to a network subscription. Overcoming this handicap would require increased expenditure on upfront and continuous advertising and promotion.

VI. Other regulatory proposals – blocking and theme tiers

The preceding sections have discussed the economics of bundling and the consequences of requiring that MVPDs provide cable programming on an à la carte basis. We can now draw on this background to discuss other regulatory proposals and specific questions raised by some consumers and public officials.

A. Blocking

One complaint that is sometimes made about tiers of programming offered by MVPDs is that some subscribers find objectionable programming bundled together with programming that they want. Of course, this can happen in any of the packages of media content that consumers purchase. *Time* or *Newsweek* may occasionally or even regularly contain material to which certain individuals object and which they do not want their children to see, even though they value the remainder of the content of the magazine and would encourage their children to read that content. The same may be true of local daily newspapers, of which most communities have but one. Consumers may have to make difficult decisions about whether to subscribe or not, and if they decide to subscribe they may need to take steps to protect their children from gaining access to the material that is objectionable. Similarly, consumers must decide whether to subscribe to MVPD bundles of content that contain objectionable material, and if they do subscribe they must take steps to prevent children from access to the objectionable material.

Consumers can take various steps to ensure that they do not watch these networks. Many set-top boxes, including most or all modern boxes, can be programmed to block specific networks, and some set-top boxes and televisions can block individual programs. Cable companies will, on request and for no additional charge, install a physical device outside the home that filters out or “traps” a spe-

cific network so it cannot be received. Consumers can also simply change the channel and not tune their televisions to the objectionable networks.

Some consumers who use a set-top box or “trap” to block a network ask why the fee they are charged by their MVPD is not reduced to reflect the reduced number of networks they are actually getting. However, ordinary consumer experience would not lead them to expect a fee reduction. As was pointed out above, sellers of all types bundle components together as products or services and provide them at a lower price than the sum of the cost of the individual components. A consumer who wants to buy a product that is not “off the shelf,” customized either by including or excluding some features, often has to pay more. A diner ordering a steak may ask the restaurant to hold the baked potato that is “bundled” with the steak, but she does not expect the restaurant to decrease the price of the meal accordingly.³³

The consumer who finds a network objectionable is not significantly different, in this regard, from a consumer who finds a network uninteresting. As pointed out above, most consumers have networks in their MVPD’s programming tier that they do not watch. These consumers decide to subscribe to the MVPD’s programming tier because, taken together, the networks that consumers do watch have a value that exceeds the price that the MVPD charges. They do not expect to

³³ As with any unbundling of content, blocking imposes costs on the MVPD and the cable network, as well as other subscribers. Returning to the magazine analogy from the Introduction Section, a subscriber could ask the publisher of *Newsweek* that a particular section dealing with foibles of celebrities be blacked out. Conceivably, the publisher might accommodate this request for a subscriber, or (more plausibly) even offer a redacted edition of the magazine if a significant percentage of subscribers had the same interest. However, both the costs and revenue effects of tailoring content in this way would likely, in a competitive environment, result in subscribers paying a higher price for the customized magazine, rather than receiving a discount because of the reduced content.

have their fee reduced to reflect the networks that they do not watch. Similarly, consumers who choose to subscribe even though they either block or do not watch certain objectionable networks find the value of the programming they do watch exceeds the price they have to pay, without any fee reduction.

The issue here arises not merely with MVPD bundling but with bundling of any kind. More specifically, suppose that a shopper needs exactly 12 ounces of bitter chocolate for a recipe. The store sells bitter chocolate in a 10-ounce bar for \$2.00 (20¢ per ounce) and a 15-ounce bar for \$2.25 (15¢ per ounce). The shopper buys the larger bar and later returns with the unneeded 3 ounces to the store, requesting a refund. Should the law require a refund in these circumstances? If so, how much should the refund be? What would happen to the cost of retail services and the prices of goods sold at retail if the law required a refund in these circumstances? It does not take much imagination to see that such a law would quickly produce a nightmare for suppliers and consumers alike.

In any event, it currently may not be economical or possibly even feasible for MVPDs to report reliably to a network the number of subscribers that block the network, especially if subscribers block the network using a set-top box. Thus, there is no mechanism for MVPDs to reduce their program acquisition fees when a consumer chooses to block. There is no cost savings for the MVPD to “pass through” to the consumer as a reduction in the consumer’s monthly fee.

B. Theme tiers and mixed bundling

The Commission asks about the likely effects of mandating theme tiers. For example, there might be a sports tier, a movie tier, an adult tier, and/or a family tier. Presumably, material likely to be objectionable for children would be omitted from the family tier, for example. It is unclear who decides what program

networks would be made part of such a tier. There are at least two problems with this approach. First, to the extent that MVPDs compete with one another (there are now at least three major MVPDs available to nearly every consumer, and sometimes other minor ones), a theme tier requirement would constrain the industry away from its competitive equilibrium. Policymakers generally accept the legitimacy of competitive market outcomes, if not because such outcomes optimize consumer welfare, then because there is no basis for improving matters with a regulatory intervention. In this case, forcing MVPDs to market their services in a way that differs from the strategy that best serves consumer demand seems likely to reduce economic welfare.

The second objection to a requirement of theme tiering is that it is not a content-neutral regulatory intervention. Indeed, the essence of the intervention is to organize content in a way different from the way the MVPD would like to organize and market it. This raises First Amendment issues that the Commission and the courts would have to address.

Government-mandated tiers would entail the same problems as à la carte pricing. Mandated tiers would reduce subscriber and advertising revenues because of reduced circulation for each network included on a tier that was not chosen by all current subscribers. Dividing the basic bundle into tiers would require consumers to pay for set-top boxes as with à la carte pricing of networks. Tiering would lead to increased marketing, transactional, and customer support service costs. Transactional costs may even be higher than with à la carte because a programmer would have to convince consumers to subscribe not to just its network, but to some tier of programming that will likely differ across MVPD systems. Indeed, a programmer's transactional expenditure will benefit not only itself, but whatever networks it is packaged with on the tier. Strategic interaction among

networks in each tier might result in promotional expenditures greater or less than optimal levels.

Other proposals include “mixed bundling,” whereby an MVPD must offer all the networks à la carte as well as in a bundle, and “voluntary” à la carte, whereby an MVPD can offer some networks à la carte rather than as part of a bundle. Again, breaking networks out of a tier taken by all subscribers would reduce a network’s subscriber and advertising revenues because of reduced circulation for the network. Offering any of the networks à la carte would require consumers to pay for set-top boxes and would lead to increased marketing, transactional, and customer support service costs.³⁴ A program supplier’s optimal promotional and marketing strategy and associated pricing decisions would likely differ if its network is sold à la carte rather than as part of a tier. If a programmer’s network is offered à la carte in some areas and as part of a tier in other areas the programmer may need two different types of advertising and marketing campaigns. Indeed, the programmer may be in a difficult position because the programming would need to appeal to the à la carte consumer and to the tier consumer, and the optimal type of programming to reach these two types of consumers may be different. There could also be problems in selling national advertising. Hence, a cable network may not be able to survive in competition if its program service is not marketed uniformly (i.e., on the same type of tier) by all MVPDs.

Being forced to unbundle only a few specific networks will create the problems discussed above for those networks that are unbundled and might not

³⁴ In a mixed bundling regime, consumers who subscribe to the bundle may not need a converter box.

reduce the price of the remaining bundle of networks. To the extent that certain subscribers are willing to pay only a very low price for the networks that are unbundled, the price they are willing to pay for the remaining bundle of networks is unchanged or only slightly reduced. If there are many such subscribers, the MVPD will not significantly reduce the price of the bundle. Since these consumers were initially purchasing the bundle to view networks other than the networks that were unbundled they should be willing to pay the same price for the bundle excluding those networks.

VII. Conclusion

We conclude that mandatory unbundling of cable program services at the wholesale or retail level would be harmful to consumer welfare in the United States. At the wholesale level the evidence suggests that bundling simply is not an important feature of the commercial landscape. Where buyers do perceive it to occur, they probably mistake what amounts to a quantity discount for a true bundled offer. At the retail level, complaints about bundling may reflect the false assumption that the sum of the competitive prices for unbundled networks would be the same as current bundle prices. As we have shown, the reality is that the components would likely cost more than the bundle. More generally, bundling is a very common and efficiency-enhancing economic phenomenon. In its absence, costs and prices would increase, making virtually everyone worse off and reducing the output of goods and services.

Even if all of the foregoing is assumed to be incorrect, so that bundling actually reduced welfare in the MVPD programming markets, remedial action would be elusive. Bundling is in part a pricing phenomenon, and it could not be limited without regulating both the definition of what constitutes a bundle for each product or service as well as its price. In contrast to the task of regulating unbundled elements of local exchange services, where the conditions for efficient pricing are relatively straightforward, there is no generally accepted rule for pricing non-rivalrous consumption goods such as video programming that is incentive compatible on the supply side and efficient on the demand side.

Appendix A. Basic cable networks included in each network supplier

Network supplier	Cable networks
A&E	Arts & Entertainment, Biography, History Channel, History Channel International
Cablevision	American Movie Classics, Fuse, Independent Film Channel, Women's Entertainment
Comcast	E! Entertainment Television, Golf Channel, Outdoor Life Network, Style.
Discovery	Animal Planet, Discovery Channel, Discovery en Espanol, Discovery Health Channel, Discovery Home Channel, Discovery Kids Channel, Discovery Science Channel, Discovery Times Channel, Discovery Wings Channel, The Learning Channel, Travel Channel. (FitTV was not included because it was acquired in 2001 and re-launched in 2004.)
Disney	ABC Family Channel, Disney Channel, ESPN, ESPN2, ESPN Classic Sports, ESPNNews, SoapNet, Toon Disney
Fox	Fox Movie Channel, Fox News Channel, FX, Speed Channel (National Geographic Channel was not included because it started in 2001.)
Lifetime	Lifetime, Lifetime Movie Network (Lifetime Real Women was not included because it started in 2001.)
Time Warner	Cartoon Network, CNN, CNNfn, Headline News, NBA.com TV, TBS Superstation, Turner Classic Movies, Turner Network TV
Viacom	BET, BET Jazz, CMT: Country Music Television, Comedy Central, MTV: Music Television, MTV Espanol, MTV2, Nickelodeon/Nick at Nite, Nickelodeon GAS, Noggin, Spike TV, TV Land, VH1, VH1 Classic, VH1 Country, VH1 Soul.

Appendix B

Demand evidence

Economic literature

Recent economic studies have attempted to estimate mean consumer willingness to pay for basic cable networks while accounting for the differences among networks.³⁵ One study estimates the price of the basic cable bundle when different cable networks are added.³⁶ The study assigns cable networks to various groups (news, sports, family, etc.) and then estimates the common value of any member within a group. Using nearly fifteen-year-old subscriber data (from 1990), this study finds that the addition of a family or sports network increased the price of basic cable by 7 percent while the addition of a music, news, or educational network increased the price by 4 percent. At \$15.90, the average basic

³⁵ Earlier economic literature focused on the incremental price charged by cable operators when they included an additional cable network. No distinction was made for the type of network added. Incremental values found ranged from a few cents per month to less than a dollar per month. These results most likely do not provide a useful guide to optimal à la carte prices for a number of reasons. First, there is no variation in the value of different cable networks. It is likely that some cable networks are more valuable to consumers than others (some may even have negative values for a portion of subscribers). Averaging consumer value over all cable networks will mask this variation. Second, these studies attempt to determine the incremental value consumers place on a cable network when it is *included in* the basic or expanded basic bundle. This value is certainly affected by the other choices already available within the bundle. This is especially problematic when the value estimated is for an additional generic cable network. Third, these studies make no allowance for non-subscriber revenue to cable systems. Fourth, the studies do not control for variation in cable system programming acquisition costs. Cable systems not only take into consideration consumer demand and advertising revenue, they also account for the cost of the programming. There are obviously wide differences in carriage fees paid by cable systems that must be included in any model of consumer demand.

³⁶ Diane Anstine, "How Much Will Consumers Pay? A Hedonic Analysis of the Cable Television Industry," *Review of Industrial Organization*, Number 19, pp. 129-147, 2001.

cable price in the sample, this would imply an increase in price of \$1.11 and \$0.67 respectively.³⁷ The use of categories of networks was required because the author was unable to get statistically significant results when using individual cable networks.

The estimates of consumer value derived in this study are of limited value for estimating optimal cable network à la carte pricing for several reasons. First, values are not derived for particular networks, but for each of the 15 categories of networks defined by the author. Second, the value of the network is determined when *added* to the basic bundle. This may not be the same value assigned to the network *outside* of any bundle. Third, the study estimates the average value across all consumers and does not indicate how the value varies across consumers—i.e., the results do not describe demand curves.

In a series of papers by Gregory Crawford, consumers' mean willingness to pay is estimated for particular networks.³⁸ Professor Crawford and his co-authors use carriage variation across cable systems to estimate the mean willingness to pay for the top 15 cable networks (based on total subscribers). Using data from 1992 and 1995, these studies find that the mean willingness to pay varies

³⁷ Anstine finds that the addition of general program networks and superstations adds no significant value. The author speculates that this is due to the similarity between those networks and over-the-air programming.

³⁸ "The Impact of the 1992 Cable Act on Household Demand and Welfare," Gregory S. Crawford, *Rand Journal of Economics*, Vol. 31, No. 3, Autumn 2000, pp. 422-449. "The Discriminatory Incentives to Bundle in the Cable Television Industry," Gregory S. Crawford, Working Paper, University of Arizona, April 2, 2004, "Bundling in Cable Television: Incentives and Implications for Regulatory Policy," Mark Coppejans, Gregory Crawford, Duke University Working Paper [Draft], November 1999.

from a high of \$5.50 for ESPN to a low of -\$1.22 for the Family network.³⁹ Even though the authors have estimated values for particular cable networks, these estimates retain some of the unsuitable features of the previous study for purposes of estimating prices under à la carte pricing.

Inferences from premium services

A limited amount of information about consumer choice and prices can be gleaned from premium networks that are now offered à la carte. Data from Warren Communications show, for many cable systems, the number of subscribers taking individual premium networks and the monthly fee charged by the cable operator for that network. Usable data were available for HBO on 3,416 systems, for Cinemax on 1,944 systems and for Showtime on 1,922 systems.⁴⁰

To study thoroughly the effect of price on subscription levels, one would want to control for economic and demographic characteristics of MVPD systems' service areas, the price and quality of basic service, the number of broadcast signals available, and other relevant factors. Such a study is not feasible within the time available to respond to the Public Notice. Nonetheless, some rough observations may be useful in calibrating the analysis of prices and subscription levels that might be expected among basic networks in an à la carte environment.

³⁹ Negative values are possible since the authors are measuring mean willingness to pay. The network may still have positive value to the bundle if some subscribers value it highly.

⁴⁰ Systems were excluded if they did not carry a particular network, if there was no fee reported to receive that network alone (as opposed to a bundle of premium networks), if no subscriber counts were reported, or if the reported number of subscribers to the premium service exceeded the number of basic subscribers reported for the system.

Among the systems providing useable data:

- Ninety-three percent of HBO subscribers pay between \$8.00 and \$14.00 per month. At each dollar interval in that range, the ratio of HBO subscribers to total basic subscribers was calculated for all systems offering HBO at a price in that range. For instance, among systems offering HBO for \$8.00-\$9.00, 21.5 percent of total basic subscribers were also HBO subscribers. Across different dollar price intervals, the percentage of basic subscribers taking HBO, or the “take rate,” reached a low of 20.2 percent and a high of 23.4 percent. The average take rate among subscribers in all systems pricing in the \$8.00-\$14.00 range was 21.7 percent, at an average price of \$11.47.
- Again, ninety-three percent of Showtime subscribers pay between \$7.00 and \$14.00 per month. Across different dollar price intervals, the Showtime take rate ranged between 9.5 percent and 22.9 percent. The average take rate among subscribers in all systems pricing in the \$7.00-\$14.00 range was 10.6 percent, at an average price \$10.95.
- Ninety-five percent of Cinemax subscribers pay between \$7.00 and 14.00 per month. Across different dollar price intervals, the Cinemax take rate ranged between 9.2 percent and 11.4 percent. The average take rate among subscribers in all systems pricing in the \$7.00-\$14.00 range was 10.3 percent, at an average price of \$10.84.

Care must be taken in applying even these limited conclusions to the likely prices and take rates for basic cable networks if they were to be sold à la carte. The numbers of consumers that choose to subscribe to a premium service will depend not only on the price of the service, as just discussed, but also on the price and availability of other alternative programming. Extrapolating these results to

basic networks also requires that account be taken of the differences in programming genre on premium networks (principally recent movies and original programming) and programming on basic networks (either general interest or niche programming). Additionally, the premium networks do not rely on any advertising revenue, and subscribers pay a higher fee because of this. One also has to control for the quality of the programming.

In sum, the available evidence is not sufficient, even leaving aside the general disequilibrium into which the entire industry would be thrown, to predict the demand for individual channels in a pure à la carte world. It does seem reasonable to expect, however, that there will be a decrease in the number of subscribers to any current network. Moreover, the number of subscribers that a network retains is likely to be correlated with the number of households currently viewing the network.

Appendix C



The Impact of A la Carte Pricing On Multichannel Video

July 2004

Showtime Networks Research & Analysis

Summary

- ***Up to \$60 billion*** per year in incremental transactional and related marketing costs would be incurred by programmers in an a la carte pricing scenario
- A la carte pricing requires tremendous transactional marketing* in order to attract and retain subscribers

* For the purposes of this discussion, transactional marketing is defined as a program of tactics, activities and resources designed to generate subscriptions to an a la carte network by stimulating consumer demand and influencing consumer choice at the point of sale. These tactics include, but are not limited to, consumer rebates, free previews, promotional offers, telemarketing, direct mail, customer contact personnel (CCP) sales incentives, CCP trainings and awareness tools, and distributor incentives to favorably price, package and promote the network such as penetration discounts, retail price incentives, cash marketing support.

Premium Business Overview

- There are three companies in the premium category
 - Showtime Networks Inc. (Showtime, The Movie Channel)
 - Home Box Office, Inc. (HBO, Cinemax)
 - Starz Encore Group LLC (Starz)
- Annual premium retail revenue for cable and DBS is \$8.2 billion
- Total premium households in cable and DBS is 31.2MM
 - Among the five premium services, there are 74.4MM premium units
- As an a la carte video service, premium is much more ‘transactional’ than basic cable
 - Requires significant marketing and operational support*

* Transactional marketing as defined on previous page, plus related sales organization, business operations/finance infrastructure.

Source: Premium and household and unit estimates from Kagan Research, LLC, 4/04, Nielsen Homevideo Index, 11/03; revenue estimates from Deutsche Bank, 3/04 and 5/04.



Annual Premium Category Connects & Marketing

Cable & DBS Total Premium Households (December 2003)	31.2MM
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Average Monthly Household Churn Rate	5.9%
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Annual Premium Household ‘Replacement’ Connects Required <i>Just to Stay Even</i>	22.1MM
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Annual Premium Unit ‘Replacement’ Connects Required <i>Just to Stay Even</i>	41.6MM
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Annual Premium ‘Transactional’ Marketing Expense	\$240.4MM
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Annual Premium Addl. Marketing Expense	\$227.9MM
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Total Annual Premium Sales, Marketing & Advert Expense	\$468.3MM
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Average Cost per Unit Connect	\$11.25
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Source: Third party public filings and equity research reports; churn and connect estimates derived from SNI Sales & Marketing analysis; Kagan Research, LLC premium HH estimates; Nielsen Homevideo Index, 11/03.



Additional Costs From Making All Video Services Available A la Carte

For Programmers:

- Reduced advertising revenue
- More branding/advertising required
- Higher programming investment
- Greater costs and complexity associated with
 - Subscriber reporting administration
 - Collections and accounting
 - Affiliate auditing
- Additional Sales personnel and corresponding increase in overhead required
- Training costs for Sales Personnel
- Transactional marketing expenses

Additional Costs From Making All Video Services Available A la Carte

For Distributors:

- Digital set-top box required for every TV
- Billing system upgrades
- Signal transmission/bandwidth management inefficiencies
- Higher license fees from programmers
- Reduced local advertising revenue
- Capital investment in new Call Center facilities
- Training costs for Customer Contact Personnel (CCP)
- More phone time per call for CCP
- More customer confusion and dissatisfaction

Basic Networks Could Incur up to \$300MM in Annual Transactional and Related Marketing Expense, Which is Not Currently Part of Their Operating Budget

**Estimated Additional Costs with Total A la Carte Pricing
(based on the current Premium business)**

For A Typical* Network

	Current	A la Carte
Average Annual Connects	17.8MM	17.8MM
Average Cost Per Connect	\$11.25	\$16.90
Annual Transactional & Related Marketing Expense	\$200.3MM	\$300.8MM

* Connect volume is based on a network with 25% subscriber penetration of multichannel video universe.
Increased cost per connect estimate derived from SNI analysis; cost may vary.

What Would Consumers Have to Pay?

Building on Bear Stearns' analysis, we have added transactional marketing costs to the impact of a la carte on the estimated cost to consumer. In this case, in order to preserve current revenue, TBS might cost as much as \$5.20 if its penetration dropped to 25% in an a la carte scenario.

TBS*

(\$ and subscribers in millions, except per subscriber data)

	Current	75%	Take Rate 50%	25%
Subscribers	88.6	66.5	44.3	22.2
Subscription Revenue	\$252	\$252	\$252	\$252
Advertising Revenue	553	507	461	415
Incremental Subscription Fee from Loss of Advertising (1)	0	46	92	138
Total Subscription and Advertising Revenue	\$805	\$805	\$805	\$805
Increase in Transactional Mktg Costs	0	\$904	\$602	\$301
Monthly Wholesale Subscription Fee per Sub to maintain Subscription Revenue	\$0.24	\$0.32	\$0.47	\$0.95
Monthly Incremental Subscription Fee from Loss of Advertising	0	0.06	0.17	0.52
Monthly Incremental Subscription Fee from Increase in Mktg Costs	0.00	1.13	1.13	1.13
New Monthly Wholesale Subscription Fee per Subscriber	\$0.24	\$1.51	\$1.78	\$2.60
Estimated Cost to Consumer (2)	\$0.47	\$3.02	\$3.56	\$5.20

* TBS was selected as one of the five network examples Bear Stearns analyzed for illustrative purposes. (1) Bear Stearns assumes 33% of the subscriber reductions impact ad revenue (i.e., a 50% take rate would translate into a 16.7% reduction in ad revenue). (2) SNI assumes a 50% gross margin on the wholesale subscription fee for the cable operator (i.e., a 100% mark-up to the wholesale cost).

Source: Bear Stearns & Co., Inc., *A La Smart?*, March 29, 2004, plus SNI analysis of transactional marketing costs.



What Would Consumers Have to Pay?

Building on Bear Stearns' analysis, we have added transactional marketing costs to the impact of a la carte on the estimated cost to consumer. In this case, in order to preserve current revenue, ESPN might cost as much as \$18.77 if its penetration dropped to 25% in an a la carte scenario.

ESPN*

(\$ and subscribers in millions, except per subscriber data)

	Current	75%	Take Rate 50%	25%
Subscribers	88.7	66.5	44.4	22.2
Subscription Revenue	\$2,012	\$2,012	\$2,012	\$2,012
Advertising Revenue	737	676	614	553
Incremental Subscription Fee from Loss of Advertising (1)	0	61	123	184
Total Subscription and Advertising Revenue	\$2,749	\$2,749	\$2,749	\$2,749
Increase in Transactional Mktg Costs	0	\$904	\$603	\$301
Monthly Wholesale Subscription Fee per Sub to maintain Subscription Revenue	\$1.89	\$2.52	\$3.78	\$7.56
Monthly Incremental Subscription Fee from Loss of Advertising	0	0.08	0.23	0.69
Monthly Incremental Subscription Fee from Increase in Mktg Costs	0.00	1.13	1.13	1.13
New Monthly Wholesale Subscription Fee per Subscriber	\$1.89	\$3.73	\$5.15	\$9.38
Estimated Cost to Consumer (2)	\$3.78	\$7.46	\$10.29	\$18.77

* ESPN was selected as one of the five network examples Bear Stearns analyzed for illustrative purposes. (1) Bear Stearns assumes 33% of the subscriber reductions impact ad revenue (i.e., a 50% take rate would translate into a 16.7% reduction in ad revenue). (2) SNI assumes a 50% gross margin on the wholesale subscription fee for the cable operator (i.e., a 100% mark-up to the wholesale cost).

Source: Bear Stearns & Co., Inc., *A La Smart?*, March 29, 2004, plus SNI analysis of transactional marketing costs.



Estimated Additional Costs with Total A la Carte Pricing (based on the current Premium business)

For Distributors

	A la Carte	Increase
Annual Video Installs/Disconnects	51.4MM	N/C
Annual Video 'Service Adjustments'*	38.6MM	22.2MM
Annual CCP Phone Hours Required	5.2MM	4.1MM
Annual CCP Expense	\$244.0MM	\$128.0MM

* Service adjustments are changes to existing premium or digital service subscription, such as adding services, dropping services, or substituting one service for another. A la carte is projected to increase the complexity and duration of service adjustment phone calls, as consumers inquire about their new options, and evaluate cost savings with more extensive assistance from CCP.

Source: SNI Sales & Marketing analysis; CCP phone expense averages from 2003 CCP industry conference guide.



Attachment 2

Excerpts from

**WHY A BOX OF CRAYONS HAS MANY COLORS, AND THE “CABLE TAX” IS
NOT A TAX**

WHY CONTRACT CONFIDENTIALITY PROMOTES COMPETITION

AND

**WHY THE *NEWS CORP* RETRANSMISSION CONSENT CONDITIONS
DON'T APPLY TO OTHER BROADCAST NETWORKS**

by

Bruce M. Owen and John M. Gale

August 13, 2004

ECONOMISTS INCORPORATED

Washington DC

Excerpts from

**Why A Box Of Crayons Has Many Colors, And The “Cable Tax” Is Not A
Tax**

Why Contract Confidentiality Promotes Competition

And

**Why The News Corp Retransmission Consent Conditions Don’t Apply To
Other Broadcast Networks**

by

Bruce M. Owen and John M. Gale[†]

Summary

Viacom asked us to provide economic analysis of certain issues raised by first round filings in this proceeding. In this brief paper, we reiterate our point that bundling is, in general, a practice highly beneficial to consumers and to competition. We also point out that economic theory does not, as has been insinuated, condemn as inherently suspect all instances of product bundling. Further, the argument that MVPD subscribers are being “taxed” for programming they “do not want” makes no economic sense.

[†] Owen is the Gordon Cain Senior Fellow in Stanford University’s Institute for Economic Policy Research and a Special Consultant to Economists Incorporated. Gale is a Senior Economist at Economists Incorporated.

Why A Box of Crayons Has Many Colors

It simply cannot be true, as a matter of common sense, that there is a grave economic inefficiency associated with every product that we purchase, owing to its being made up of various parts. As we pointed out in our earlier paper in this proceeding, virtually all goods and services are bundled at the time of sale.¹ Very often, perhaps most often, the parts of the bundle are not available separately, or would cost more than the price of the bundle if supplied separately.

Nevertheless, some commentators in this proceeding on à la carte cable pricing have asked, “Why should I have to pay for channels I never watch?” The short answer is that they are not paying for them, they are paying for a complete package. The package as a whole is worth more than the price; otherwise they would not subscribe. The long answer requires explaining some basic economic concepts about how bundling a variety of elements into a single sale benefits both the seller and the buyer.

Many products are bundled because the bundling service itself is highly valuable to consumers, as with the purchase of an automobile. Many other products are bundled together into a single sale in order to provide variety to buyers at low cost. For this type of product, consumers would like to have a variety of different types of the product offered as a single purchase. An analogy, though not an exact one, can be drawn between cable networks and crayons. Consumers can choose among 8, 16, 64, or (the coveted) 96 crayon boxes, just as they can choose among the various tiers offered by an MVPD. In each of the boxes there are col-

¹ Bruce Owen and John Gale, *Cable Networks: Bundling, Unbundling, and the Costs of Intervention*, July 15, 2004, submitted with Viacom’s initial comments in the matter of À La Carte and Themed Tier Programming and Pricing Options for Programming Distribution on Cable Television and Direct Broadcast Satellite Systems, FCC Docket No. MB-04-207 (July 15, 2004).

ors that a particular consumer likes and uses often and colors that he will likely never use. One could ask the same question about crayons as about cable networks: “Why should I be forced to pay for crayons that I don’t like and will never use?” Why shouldn’t regulators require that crayons be unbundled so that consumers can buy only the colors they like?

The answer is the same for both crayons and cable networks, though the intuition behind it may be clearer for crayons. For products where it costs little (or nothing) for a provider to include more variety that *someone* may like, it is in the best interests of the seller and the buyer to include elements that not *everyone* wants. One consumer may not care to use the periwinkle crayon, but that is someone else’s favorite color, so it is included in the box to please the second person and get him to buy a box. A maker of crayons knows that some colors are popular and some are not-so-popular. To make as many sales as he can, the crayon maker will include the popular colors in more boxes and will also include the not-so-popular colors in some boxes to induce the odd-color-lovers to buy a box of crayons. A color may be included only in the largest box if it appeals to few people, even though it is especially important to those people. In this way the seller makes the complete box more valuable to consumers as a whole, even though it may not make it more valuable to a particular consumer. Finally, it has to be the case that each buyer values the box of crayons he chooses to buy more than the price he pays, even though he may not value a particular color at all. Similarly, removing a particular color from the box because a buyer does not intend to use it would not change the price charged for the box of crayons. The same price is charged to all buyers, whether they use only one color or every color in the box.

In the same way, an MVPD will offer the most popular channels in most packages (or tiers) while also including some specialty or niche channels. By including more channels, the entire package is more valuable to potential cable subscribers on average, so the cable system sells more subscriptions. At the same

time, a particular subscriber may not find that the additional channels make the package more valuable to her. It is always true that each subscriber values the entire package more than the price she pays *or she would not choose to subscribe*.

It may seem wasteful for a seller to give people crayons (or channels) that they do not use, but in fact, it can be more costly to provide only the specific colors each buyer wants. For crayons, one could imagine a specialized crayon store with bins of each color crayon where a buyer could mix and match whatever colors he wants. Of course, this would require the creation of the specialized crayon store and a trip by each consumer to the store. In the case of MVPDs, this would require each consumer to have a set-top box for each television and to have good information about the programming on every network offered by the cable system. It is likely more efficient to give a buyer some crayons he does not use (or a subscriber channels she does not watch) than to mandate a system where each buyer only gets the colors he likes (or the channels she watches).

An additional feature shared by crayons and MVPD services is that although consumers buy crayons and channels that they never use, they may value the option of using that color or channel in the future. Crayon purchasers often do not know which colors will be right for some future project, and value the option to experiment. Even the consumer who does not like periwinkle and would not buy a periwinkle crayon if it were sold separately, may have an occasion in the future where he has to use periwinkle to make a picture. Even though that event may be unlikely, he still values the option of using the color. Similarly, there are channels included in a cable subscription that a consumer has never watched, but there may be a day when that channel carries a show she wants to see. Because of this, even if she never watches a channel it can still be of some value to her. Of course, it is even easier to see that consumers value crayons or networks that they do use, albeit infrequently, even if they would not choose that crayon or network if sold separately.

A final feature shared by crayons and MVPD service is that consumers may not be able to predict accurately what colors or channels they will like when they make their initial purchase. A consumer may not have a good idea of whether he will use a cyan crayon (in fact, he may not even know what cyan looks like), so he cannot make an informed decision about whether to buy a cyan crayon. After using his box of crayons, he realizes that he loves cyan and uses it all the time, which makes his box of crayons more valuable than he had expected. If cyan had not been included in his box, he would never have known how much he liked it. Similarly, every subscriber's cable package includes channels she would probably not have chosen. But the history of cable television programming is replete with examples of shows carried on obscure cable channels that become very popular. In these instances there have to be consumers who would not have chosen the channel but, after sampling a particular show, are very happy to have the channel in their package.

While it is true that bundling benefits consumers overall, admittedly it can make some consumers worse off. To return to the example, if a consumer wants a blue crayon, and only a blue crayon—and will never use any color but blue—then depending on the cost of providing that choice it can be cheaper for that one consumer if crayons are not bundled. That consumer would be able to buy a box with only a blue crayon, while consumers who prefer a variety of colors would have to select and pay for each individual color. While a consumer with very narrow tastes may be worse off, bundling makes consumers with broad tastes better off because they pay a lower price than if they had to select and purchase each crayon or network individually. As shown in our initial comments, consumers are likely to pay more for the programming they receive if channels were unbundled. Hence, consumers as a whole would be worse off if bundling were prohibited.

On a closely related point, Consumers Union and Consumer Federation of America (CU/CFA) have introduced a new and highly misleading term into the

discussion. They maintain that cable subscribers pay a “cable tax.”² This tax allegedly consists of the payment that consumers make for programming they don’t want but which they must purchase in order to get the programming they do want. This term is misleading for at least two reasons.

First, CU/CFA seem to include among the channels that consumers “want” only the channels that they watch “regularly,” estimated to be 12-17 channels on average. As we pointed out in our initial comments, consumers who subscribe to a large tier of channels also derive benefits from the channels that they do not view regularly. These consumers are able to tune to channels outside their “regular” channels to watch attractive shows on an occasional basis. They are also able to browse the other channels to determine at low cost whether they would be of interest. Actual behavior shows that consumers value these options and take advantage of them.

Second, the notion of a “tax” implies that consumers pay more for the bundle of programs that includes some channels that are not of interest than they would pay to receive the channels of interest on an à la carte basis. Our initial comments showed that if networks were widely distributed on an à la carte basis, consumers buying a significant number of networks, such as ten, could well end up paying more for those channels than they currently pay for a tier that includes a much larger collection of networks. It is a strange tax that leaves people better off if they pay it than if they don’t.

CU/CFA also submitted a paper by sociologist Dr. Mark Cooper, noting that “the possibility of anti-consumer bundling has long been recognized in static consumer welfare economics literature.”³ Dr. Cooper cites three economic articles

² *Comments of Consumers Union and Consumer Federation of America*, July 15, 2004, at 3.

³ Mark Cooper, *Time to Give Consumers Real Cable Choices*, July 2004, at 5.

in support of this statement.⁴ These papers consider bundling in circumstances that eliminate many of the potential advantages of bundling from being considered. For example, they assume that bundling is strictly a pricing practice, and that consumers derive no utility from the assembly of the bundle on their behalf. They assume that bundles do not cost less to produce and market than their components would. They also assume that each component of the bundle could viably exist as a stand-alone “product;” that is, they do not consider the vast class of components that are efficiently supplied only as “parts.” Dr. Cooper is correct that there is the *possibility* of adverse effects from bundling under certain assumptions, but he does not show, and there is no reason to believe, that MVPD bundling satisfies these assumptions. If Dr. Cooper believes that the situations studied in the theoretical papers he cites are applicable to network programming supplied by MVPDs, he must make that case with appropriate evidence. It is absurd to suggest that every bundled product is guilty of causing consumer harm until proven innocent.

⁴ William J. Adams and Janet L. Yellen, “Commodity Bundling and the Burden of Monopoly,” *Quarterly Journal of Economics*, (1976), 475-98; Richard Schmalensee, “Gaussian Demand and Commodity Bundling,” *Journal of Business*, (1984), 211-30; and R. P. McAfee, John McMillan, and Michael D. Whinston, “Multi-product monopoly, commodity bundling, and correlation of values,” *Quarterly Journal of Economics*, (1989), 371-83.

Attachment 3

November 4, 2004

W. Kenneth Ferree
Chief, Media Bureau
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: MB Docket No. 04-207

Dear Mr. Ferree:

Sound analysis, based on long-established and fundamental economic principles, demonstrates that a government requirement that cable and direct broadcast satellite (DBS) television programming be available to customers on an *a la carte* basis would very likely raise prices and harm consumers. Several such analyses have been submitted in the current proceeding, including those conducted by the undersigned economists. Although these analyses differ with respect to certain details, all reach the same fundamental conclusion: government-imposed *a la carte* distribution would very likely harm consumers, programmers, multi-channel video programming distributors (MVPDs), and economic efficiency. These harms would arise even if the government permitted multi-channel providers also to offer discounted programming bundles.

In their submissions, Consumers Union and the Consumer Federation of America (CU/CFA) claim that mandatory unbundling is good public policy. These submissions, however, are based on fundamentally flawed claims, which are grounded in neither sound economic theory nor empirical evidence. We are writing jointly to emphasize the seriousness of the errors in several of these claims and the need to apply proper economic analysis to them.

In this brief letter, we touch on only a few of the most important and misleading errors:

- *CU/CFA submissions misconstrue the economics of bundling and contain no meaningful analysis of the equilibrium effects of government-imposed a la carte distribution.* The CU/CFA submissions fail to recognize the efficiency benefits of bundling. They also fail to understand that these benefits may arise whether or not suppliers have market power. A central feature of sound economic analysis is that it traces through the full effects of a policy by determining how it affects equilibrium outcomes. Instead of following this methodology, the CU/CFA submissions simply make unsubstantiated assertions that lack logical and factual bases.

In contrast, the undersigned economists have conducted analyses that focus on the price, output, and program diversity consequences—whether intended or not—of *a la carte* requirements. These analyses demonstrate the harms of government-imposed *a la carte* distribution.¹ Consumers, in particular, would be harmed through several different effects of government-mandated *a la carte* distribution, including the following: (1) mandatory *a la carte* distribution would very likely raise overall prices;² (2) consumers' viewing decisions would very likely be distorted and their ability to sample alternative networks and shows would very likely be suppressed; and (3) mandatory *a la carte* distribution would very likely harm new and niche networks,³ which would result in fewer viewing options for consumers.⁴

- *CU/CFA submissions overstate the alleged benefits of a la carte distribution.* The CU/CFA submissions assert that bundling forces consumers to pay for programming they do not watch. Economic analysis of the MVPD industry, however, demonstrates that this claim is a myth.⁵ This argument ignores the

¹ See, e.g., Gustavo Bamberger, *Statement of Gustavo Bamberger*, July 14, 2004; Michael G. Baumann and Kent W. Mikkelsen, *Benefits of Bundling and Costs of Unbundling Cable Networks*, July 15, 2004; Thomas W. Hazlett, *The Economics of Cable TV Pricing: A La Carte v. All-You-Can-Eat*, August 12, 2004; Michael Katz, *Slicing and Dicing: A Realistic Examination of Regulating Cable Programming Tier Structures*, July 15, 2004; Michael L. Katz, *Wrong Diagnosis, Wrong Cure: An Analysis of the Claims Made by Dr. Mark Cooper in "Time to Give Consumers Real Cable Choices"*, August 8, 2004; and Bruce M. Owen and John M. Gale, *Cable Networks: Bundling, Unbundling, and the Cost of Intervention*, July 15, 2004.

² Overall prices would be expected to rise for a number of reasons. First, overall costs would rise: distribution and marketing costs for operators and programmers would rise due to the complexity of *a la carte* distribution, while programming costs would not decrease unless programming quality significantly declined. Moreover, because of the distortions in viewer behavior that government-imposed *a la carte* distribution would induce, overall cable and DBS television viewing would fall. This fall would reduce opportunities for programmers and MVPDs to generate advertising revenues that would otherwise offset their costs. Consequently, programmers and MVPDs would have economic incentives to set higher prices.

³ "The overwhelming opposition of programmers is based on a crucial economic consideration: *each cable network needs to get its programs to where viewers can see them, and imposing a la carte will make that harder*. Providing customers with a large bundle of channels for a standard monthly fee has delivered exceedingly important efficiencies, and forcing customers to order one network at a time would eliminate those advantages." (Thomas W. Hazlett, *The Economics of Cable TV Pricing: A La Carte v. All-You-Can-Eat*, August 12, 2004 at 30.)

⁴ "[T]he imposition of *a la carte* pricing likely would reduce the number and diversity of available networks, or reduce the quality of programming shown on those networks (or both). For the same reasons (e.g., likely lower advertising and license fee revenues), fewer networks likely would be launched in the future." (*Statement of Gustavo Bamberger*, July 14, 2004 at 6.)

⁵ See, e.g., Thomas W. Hazlett, *The Economics of Cable TV Pricing: A La Carte v. All-You-Can-Eat*, August 12, 2004 at 23 ("While it appears that subscribers are being charged for programs they *do not* demand, the fact is that they only pay the subscription fee if the value of the programs they *do* demand exceeds the fee. In reality, they only pay for the tier programs they desire to receive, and the cable operator throws the additional channels in for free.").

fundamental fact that it is costly to exclude a cable subscriber from receiving selected networks. In fact, once one takes into account the effects on the supply of programming available to cable and DBS operators, economic analysis shows that the use of program bundles can lead to situations in which *every* consumer *pays less and receives more* programming than he or she would under a mandatory *a la carte* scheme.⁶

- *CU/CFA submissions understate the costs of a la carte distribution.* CU/CFA offers no serious analysis of the costs of the more sophisticated set-top boxes, complex billing systems, and greater customer service demands that mandatory *a la carte* distribution would impose. In fact, as shown by numerous filings, mandatory *a la carte* would significantly increase distribution costs.
- *CU/CFA submissions consistently confuse system capacity and carriage decisions with bundling, and their projections of the effects of mandatory a la carte distribution on network variety are exactly backwards.* If a media conglomerate has enough bargaining power or desirable enough programming to induce MVPDs to carry multiple networks from that programmer, then those incentives exist whether MVPDs offer their programs in bundles or on an *a la carte* basis. Mandating *a la carte* distribution would do nothing to increase scarce system capacity. In fact, by diverting dollars and managerial efforts to complex and expensive billing system modifications and other changes needed to support *a la carte* distribution, mandatory *a la carte* distribution might slow the growth of channel capacity which could otherwise allow a wider array of programming to be offered to consumers. And, as noted above, there are many additional reasons why programming diversity would be harmed by mandatory *a la carte* distribution.

Confusion about the relationship between bundling and programmer bargaining power is related to another point of confusion in the debate over unbundling. So-called “voluntary” *a la carte* distribution is nothing of the sort. Under some proposals for “voluntary” unbundling, programmers would not be allowed to: (a) negotiate whether their programming was offered in tiers or on an *a la carte* basis; or (b) require MVPDs to purchase multiple networks in a bundle. Such a policy could abrogate existing contracts, thus undermining investments made in reliance on these contracts and triggering the need for costly renegotiation. Moreover, government-imposed restrictions on the freedom of programmers and MVPDs to reach contracts on terms of their choosing would very likely lead to inefficient

⁶ See, e.g., Michael Katz, *Wrong Diagnosis, Wrong Cure: An Analysis of the Claims Made by Dr. Mark Cooper in “Time to Give Consumers Real Cable Choices,”* August 8, 2004, Appendix.

outcomes and harm to consumers.⁷ Lastly, for reasons similar to those stated in the next bullet, an unbundling requirement could lead to regulation of the prices that programmers charge to MVPDs, which would be an unwarranted imposition of government control.

- *CU/CFA's call for mixed bundling is really a disguised call for cable rate regulation.* If MVPDs were forced to offer *a la carte* options, they could do so in such a way as to induce consumers to continue choosing current bundled options. For example, an MVPD could offer a package of programming for \$40 per month and offer each channel within the package on an *a la carte* basis for \$35 per month per channel. Such pricing would constitute mixed bundling, which is the pricing structure the CU/CFA submissions advocate. If the aim of the mandatory unbundling proposals is to change the way MVPDs sell video programming to consumers, rather than merely to give consumers a nominal *a la carte* option, *a la carte* supporters—such as CU/CFA—are implicitly calling for some form of price regulation. It is well established that regulating cable rates is an extremely difficult process that inevitably results in unintended adverse consequences for consumers and economic efficiency.

In conclusion, sound economic analysis demonstrates that government-imposed *a la carte* distribution—whether labeled “voluntary” or not—would harm consumers, programmers, MVPDs, and overall economic efficiency. The unsubstantiated and often illogical claims made in the CU/CFA submissions do nothing to change this fact.

Respectfully,

Gustavo Bamberger
Lexecon

Michael G. Baumann
Economists Incorporated

John M. Gale
Economists Incorporated

⁷ If a program network's business plan and viability depend on the network's being carried on a widely distributed tier, the network may need to be able to negotiate for the right to such carriage from MVPDs before committing to significant programming expenditures. A governmental restriction on the ability to negotiate for such assurance would thus harm the ability of the network to provide programming that consumers might highly value.

W. Kenneth Ferree
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Thomas W. Hazlett
Manhattan Institute for Policy Research and
University of Pennsylvania

Michael L. Katz
University of California, Berkeley

Kent W. Mikkelsen
Economists Incorporated

Bruce M. Owen
Stanford University

Attachment 4

**The FCC “Further Report” on the Retail Marketing
of Video Programming Services:
An Economic Review**

by

Bruce M. Owen

March 28, 2006

Executive Summary

The Federal Communications Commission recently issued a “Further Report” reversing the Commission’s previous conclusions about the effects on consumers of selling video programming in bundles of channels, rather than channel by channel. The Commission’s reversal invites potentially disastrous increases in the costs of producing and distributing video programming, threatens to reduce the competitiveness of one of America’s strongest export industries, and virtually guarantees price increases and reduced program diversity for millions of American television viewers. The Commission’s basis for reversing its previous stance is an incomplete, result-oriented and misleading reading of the identical record relied upon in the Commission’s earlier report.

Even if the suggestion that bundling is harmful to economic welfare was not a distortion of the economic literature, the “Further Report” ignores the further and related issues that would have to be investigated before a regulatory intervention could responsibly be considered. For example, the report ignores entirely the supply side of the market for video programming: the adverse effects of government intervention on the costs of producing, marketing, and distributing programming, the negative effects on markets reliant on the same sources of supply of programming, the effects on employment in program production, and the risks to one of America’s strongest export industries. Even more remarkable, the “Further Report” pays no attention to a regulatory objective the Commission, and Congress, has held paramount for more than half a century—diversity of programming.

Bundling of goods or services is a universal marketing practice. Economists have studied the phenomenon for many years, concluding that bundling is a natural consequence of competitive as well as imperfect markets, the consequences of which vary in complicated ways according to particular market circumstances. Any given instance of bundling is at least as likely to be beneficial to consumers as a group as not, and virtually every instance of bundling, whatever its overall effects, improves the positions of some customers while worsening the positions of others. As the Commission’s earlier report recognized, the economic literature provides no basis to impose government intervention in video markets to forbid bundling. The Commission in its “Further Report” distorts this economic learning, and uses selective examples to imply that bundling of video channels is necessarily harmful to consumers.

About the Author

Bruce M. Owen is the Morris M. Doyle Centennial Professor of Public Policy in the School of Humanities and Sciences at Stanford University and Director of the Interdisciplinary Program in Public Policy. He is also the Gordon Cain Senior Fellow in the Stanford Institute for Economic Policy Research. He holds a B.A. from Williams College (1965) and a Ph.D. in economics from Stanford (1970). Dr. Owen was chief economist of the White House Office of Telecommunications Policy (1971-72), and later of the Anti-trust Division of the United States Department of Justice (1979-1981). He is the author of a number of books and articles dealing with the economics of regulation and media, including *Video Economics* (Harvard Univ. Press, 1992) and *The Internet Challenge to Television* (Harvard Univ. Press, 1999). The views expressed here are not necessarily those of Stanford University or any of its units.

Mr. Owen is a consultant to the economic consulting firm Economists Incorporated, which he co-founded in 1981 and of which he was CEO until 2003. This review of the FCC “Further Report on the Packaging and Sale of Video Programming Services to the Public” was commissioned by Viacom, Inc. The collaboration of Michael Baumann, John Gale, Kent Mikkelsen, and Matthew Wright of Economists Incorporated in the preparation of this review is gratefully acknowledged.

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Background and Summary of Conclusions

Most of the channels (video program networks) that cable and satellite operators (collectively, “MVPDs”) provide are purchased by consumers as part of a package or “tier” of networks. The FCC has recently released a report on this practice titled *Further Report on the Packaging and Sale of Video Programming Services to the Public* (“Further Report”).¹ The “Further Report” argues that it *may* be in consumers’ interest to force MVPDs to offer networks individually on an à la carte basis, or alternatively in certain theme tiers, in addition to offering them as part of a bundle.² This paper reviews the FCC “Further Report” from an economic policy perspective and provides an economic analysis of mandatory unbundling of video channels for MVPDs.

The retail multi-channel video programming services industry is part of a vital U.S. industry that supplies news and entertainment to millions of consumers in the U.S. and abroad. In 2004, basic cable networks in the U.S. incurred programming expenses of roughly \$12.1 billion dollars, up from roughly \$2.5 billion ten years earlier.³ Moreover, revenues from foreign sales by the U.S. motion picture, television, and video industries were estimated at \$17 billion in 2002.⁴ In short, U.S. video programming producers employ vast numbers of people and other resources, and the industry represents an important export market for the U.S.

The production of video programming distributed by MVPDs results from a vast set of supply and demand interrelationships. The process starts with consumers’ decisions whether to subscribe to an MVPD and (assuming they do subscribe) which packages of programming to receive. A shift from bundled offerings to mandatory unbundling can affect consumers’ prices for networks and thus influence subscription decisions. These

¹ “Further Report On the Packaging and Sale of Video Programming Services to the Public,” February 9, 2006.

² The terms à la carte and unbundled are used synonymously in this review.

³ Kagan Research, *Economics of Basic Cable Networks* 2005, pp. 16-17.

⁴ Steven E. Siwek, *Copyright Industries in the U.S. Economy*, Report Prepared for the International Intellectual Property Alliance, 2004, Economists Incorporated.

decisions in turn affect networks' advertising revenues and subscriber fees, as most basic cable networks are dependent on these dual sources of revenue.⁵ Additionally, mandatory unbundling can have an impact on the costs associated with programming production, marketing, or distribution, all of which can affect prices to consumers and ultimately the quality and quantity of programming.

The "Further Report" has focused narrowly on the potential effect of mandatory unbundling on a subset of consumers, and even this analysis is incomplete and misleading. The "Further Report" does *not* demonstrate that MVPD consumers as a whole would be better off with mandatory unbundling. The report merely asserts that *some* consumers may pay less for MVPD services with à la carte pricing, but it does not adequately consider the effects on the remaining consumers, who would likely pay *more*.

Even if viewers in general were likely to benefit, which is unproven, it would be extremely unsound economic policy to mandate à la carte pricing of video services in the absence of a careful study of the costs and risks that would be imposed on the American program production industry and its workers, as well as the consequences for continued U.S. competitiveness in this important export sector of the American economy. There are important vertical relationships among the components of the industry, illustrated by the fact that much programming is exhibited successively through a series of media. A regulatory intervention restricting the marketing practices in one part of the industry can have unforeseen adverse consequences in other segments of the industry. The "Further Report" does not even discuss other likely effects, including consequences for the cable networks and programming input suppliers. In short, the "Further Report" gives no convincing reason why bundling in the sale of cable networks to consumers should be eliminated by legislative mandate. It would be folly to mandate a fundamental change in the operation of a major industry that touches the daily lives of most Americans on the basis of this incomplete and largely misleading report.

Specific conclusions of my analysis include the following:

⁵ The term "cable network" is commonly used, even though such networks are distributed not only by cable but also by satellite and other means.

- Bundling, the focus of the FCC “Further Report,” is a very common feature in the U.S. economy, rarely requiring regulation. Bundling is a particularly natural and effective means of distribution for MVPDs and programming suppliers, both of which face high up-front costs.
- Predicting the effects of mandatory unbundling, even narrowly on cable and satellite video programming service networks, is complex. Some of the most likely effects include the following:
 - Higher prices for many consumers
 - Reduced viewing of individual cable networks
 - Reduced advertising revenues for cable networks
 - Increased marketing costs for MVPDs and cable networks
 - Increased operating costs for MVPDs
 - Increased subscriber equipment costs
 - Decreased diversity in the video programming available to consumers
- Consumers choosing relatively few networks under à la carte may see their subscription fee reduced—although even these consumers may be harmed by reduced programming quality. On the other hand, consumers who enjoy watching many networks may pay more with à la carte. It is impossible to predict confidently the sizes of the “winners” and “losers” groups, although the net effects on consumers as a whole would almost certainly be negative because mandatory unbundling is likely to increase costs to cable networks, MVPDs, and consumers.
- Some of the cable networks available to consumers as part of a bundle are likely to be unavailable to consumers if MVPDs are required to offer them à la carte. Entry by new networks is also likely to become more difficult. Networks appealing to narrow audiences with specialized tastes may be hit the hardest. This would tend to reduce the diversity of programming available to consumers.
- All consumers purchasing cable networks à la carte will lose the ability to “surf” over a broad range of cable networks. This makes it harder for consumers to sample programming and find programs they would want to view and reduces their flexibility in

viewing special events. It thus reduces the diversity of viewpoint to which consumers are exposed, even leaving aside the likely reduction in the number of competing networks.

- For those cable networks that survive, increased costs imposed by à la carte pricing are likely to lead to a decrease in program quality and reduced investment in programming by cable networks.
- The industry that produces first run programming for distribution through the various communication media, including motion pictures, faces a likely reduction in revenues if MVDP operators are required to price à la carte. The result will be some combination of reduced output, lower quality, and higher prices for original programming. This will have a negative effect on employment in the United States in the production of such programming and reduced export revenues.
- Finally, the Commission's proposal to implement à la carte regulation is a proposal to create a massive new set of market interventions with effects in a broad swath of the American economy. Such intervention is certain to produce all the usual attendant bureaucracy, inefficiency and market distortion that has attends price controls and regulatory systems, including in this case the likelihood of federal regulation of network and program content. The Commission's report does this without the slightest analysis of the costs of such a regime or the impact on any part of the economy.

Analysis

On November 4, 2004, the FCC released a *Report on the Packaging and Sale of Video Programming Services to the Public* ("First Report"). The "First Report" was based on a substantial record compiled by the Commission in response to an inquiry from Congress regarding the effects of program bundling. Recently, the FCC released a *Further Report on the Packaging and Sale of Video Programming Services to the Public* ("Further Report"). The "Further Report" concludes that "the First Report relied on problematic as-

sumptions and presented incorrect and biased analysis.”⁶ The following analysis reviews the “Further Report” and addresses more generally issues related to mandatory unbundling of networks offered on MVPDs. It concludes that, if anything, it is the “Further Report” that “relied on problematic assumptions and present[s] incorrect and biased analysis.”

Effects of Mandatory Unbundling of Retail Video Services on the Cost and Supply of Programming

Overview

Examination of issues beyond the traditional static analysis of the economics of bundling is particularly important in assessing a proposal to regulate the marketplace determination of the way video programming is packaged and priced. None of these broader issues has been raised or analyzed by the Commission in the “Further Report.” To illustrate the importance of supply-side effects, consider a requirement that MVPDs offer all cable networks à la carte, either as the only alternative or in combination with various tiers. It is reasonable to expect that if a cable network were taken out of the bundle and instead offered à la carte it would lose subscribers. Most “basic” cable networks are dependent upon dual revenue streams—advertising revenues and subscriber fees—both of which in turn depend on the number of subscribers. Hence, a reduction in subscribers, holding subscriber fees and advertising rates constant, obviously would reduce revenues to the network from both sources.

In addition, a cable network taken off a tier and offered à la carte would incur additional marketing and associated costs. Marketing consists of competitive tactics, activities and resources designed to generate subscriptions to an à la carte network by stimulating consumer demand and influencing consumer choice. A cable network offered to consumers à la carte would face additional marketing costs in order to overcome the higher search and transaction costs faced by potential viewers, who would no longer have the opportunity to

⁶ Further Report, p. 3.

“channel surf” in search of new programming, and who could no longer rely on the incentives of cable and satellite operators to vet programming on behalf of retail customers.

Although predictions regarding specific networks are difficult or impossible, some generalizations are possible. Clearly, any loss of subscriber or advertising revenue and any increase in costs would in the first instance be likely to increase consumers’ per-network subscription prices, reduce program quality, cause the exit of some networks, and limit the entry of new networks. Hence, the change in pricing would reduce the variety and breadth of programming offered to subscribers. Moreover, it would reduce what a cable network is willing to pay for original programming, syndicated off-network programming, and movies, reducing the quality of cable programming offered to subscribers as well as the quality of certain types of broadcast network programming and motion pictures.⁷ Also reduced would be the revenues earned by certain program inputs with associated reductions in the quantity and quality of their output. All of these effects will serve to reduce consumer welfare.

Subsequently, competitive interactions would take place among cable networks and among MVPDs. The effects of mandatory unbundling would unfold as a multistage process, with the impact from one stage influencing the next stage. These effects are difficult to predict and would result from the interactions of a large number of economic actors. The “Further Report” does not consider the wide range of possible effects from mandatory unbundling. Difficult as these issues may be to analyze, they must be addressed and the risks of adverse outcomes assessed before regulatory intervention can be considered.

Effects on the Efficient Distribution of Programming

Almost every product and service purchased by consumers is “bundled,” by sellers, from various components that could each, at least in principle, be sold or priced separately. Purchased bundles are then further combined, by customers, into useful consumption ac-

⁷ Part of the cost of motion pictures and original broadcast network programming is recouped from subsequent sale of the programming through other distribution channels. If such revenues, such as syndication fees from cable networks, are decreased, creators of original programming will have to reduce production costs, and quality (attractiveness to audiences), of new productions.

tivities. Bundling occurs for a variety of reasons. Probably chief among them is that sellers can assemble parts into bundled units more cheaply and efficiently than customers. Customers get a bundled product for a lower price, which they prefer to a self-assembled product, even though the self-assembled or tailor-made product might more closely match their own special tastes. Sellers obtain competitive advantage from offering bundles of components that are cheaper and/or better suited to the demands of various consumers, and the competitive market process tends to ensure that the driving force behind the assembly of bundles is consumer satisfaction.

While bundling is a pervasive practice throughout the economy, specific characteristics of the video programming services industry help explain its widespread use among MVPDs. Production of television programming is characterized by high fixed costs, and total programming costs are invariant to the number of people viewing the program. Distribution of a network on an MVPD also involves high fixed costs but no marginal costs once the MVPD had decided to carry the network on its system. In economic terms (as the FCC “First Report” noted in its Economic Appendix), consumption of video programming is non-rivalrous, in that one person’s consumption does not reduce the amount available to others.⁸

Under these circumstances, bundling can have desirable economic properties. Economically efficient pricing of non-rivalrous goods calls for pricing the goods at zero on the margin, but pricing at zero obviously would not permit cost recovery, so no production would occur. Bundling allows recovery of fixed production and distribution costs by charging households an access charge for the bundle, while encouraging widespread access to programming by allowing consumers to watch any and all networks in the bundle at no additional cost. As the FCC “First Report” notes, bundling in this context represents a form of price discrimination, which is common in industries characterized by high fixed costs and low marginal costs.⁹ Thus, bundling can provide a solution to the classic eco-

⁸ First Report, p. 84.

⁹ First Report, p. 85. See also Thomas W. Hazlett, “The Economics of Cable TV Pricing: À la carte v. All-You-Can-Eat,” August 12, 2004, pp 23-24. (hereinafter, Hazlett Report)

conomic problem of financing non-rivalrous goods without restricting consumption below efficient levels.¹⁰ It does so by permitting broader sharing of fixed costs.¹¹

In the context of MVPD services, bundling also facilitates consumer sampling without requiring consumers to subscribe in advance to specific à la carte options. Many consumers today sample or “surf” across the various video options available to them, deciding to settle on a particular network based on the attractiveness of a quick sample of the programming. Bundling therefore has option value and reduces information costs for consumers, who need not predict in advance future viewing choices but rather have the freedom to quickly and costlessly access a wide range of possible viewing choices.¹² These benefits from bundling help explain the pervasiveness of bundled offerings among MVPDs, including among those that have entered more recently.¹³

Effects on Costs

Mandatory unbundling will increase the costs of delivering video programming to consumers for many reasons. The “Further Report” focuses primarily on equipment costs, and it asserts that previous analyses’ concerns about these costs could be minimized by

¹⁰ This benefit of bundling has been pointed out by numerous other commenters. See, for instance, Michael G. Baumann and Kent W Mikkelsen, “Benefits of Bundling and Costs of Unbundling Cable Networks,” July 15, 2004, p. 10 (hereinafter, “Baumann and Mikkelsen Report”), and Hazlett Report, pp. 22-24.

¹¹ Some theoretical economic literature suggests that in certain circumstances, bundling could be used to deter entry, but it is clear that the conditions under which this might be a concern are not present with MVPDs. As the “First Report” indicates, entry deterrence might be a factor if entrants cannot offer the same bundle of programming that existing MVPDs offer. However, MVPDs are generally forbidden from demanding exclusive agreements with program suppliers, and vertically integrated MVPDs are prohibited from unreasonably discriminating against other MVPDs when supplying programming (First Report, p. 86). Indeed, more recent MVPD entrants initially offered bundles of programming when they entered. See Michael L. Katz, “Slicing and Dicing: A Realistic Examination of Regulating Cable Programming Tier Structures,” July 15, 2004, pp. 5-6 (hereinafter, Katz Report I). Moreover, MVPD entrants in many cases have attempted to compete by offering larger bundles of programming than incumbent cable systems. Thus, there is no basis for concern about MVPDs using bundling as a means of entry deterrence. Moreover, with the wide range of alternative bundles offered by different MVPDs—including cable systems and more recent entrants—consumers today have many alternatives from which to choose.

¹² As I discuss in more detail below, bundling also promotes diversity in the viewing habits of individual consumers because it facilitates “surfing.”

¹³ See the Hazlett Report, pp. 5-7, for a discussion of bundled offerings from more recent MVPD entrants.

imposing mandatory à la carte pricing only on digital customers. There are several reasons that the “Further Report’s” analysis of a mandatory unbundling requirement limited to digital customers, and its narrow focus on equipment costs, is misleading and incomplete.¹⁴

First, as discussed above, unbundling substantially increases transaction costs. Consumers will have to make complex decisions about future viewing choices. Consumers will need to add networks to try them and then drop networks they do not want. Networks also may be added or dropped based on special programming events. MVPDs in turn will have to increase customer service and order processing costs.¹⁵ These cost increases will reduce welfare, and at least a portion of these increased costs will likely be passed on to all MVPD subscribers. Mandatory unbundling would raise consumers’ search costs, as viewers would seek to learn much more about future programming choices in order to optimally choose a roster of à la carte choices. Program suppliers and distributors are likely to incur substantial marketing costs in order to compete for consumer attention in a world of mandatory unbundling.

The “Further Report” simply assumes that consumers will have very good information about the content of networks before they make a choice to subscribe. The “Further Report” ignores the significant costs to programmers of providing this information to millions of potential subscribers. The “Further Report” casually dismisses the value of consumer sampling (or “surfing”) in order to learn about new networks when it notes that “less than half of viewers find new channels through channel surfing.”¹⁶ Of course, this statement, if accurate, also means that almost half of viewers educate themselves about

¹⁴ I note that if the “Further Report” envisions mandatory unbundling only for current digital customers, its analysis does not address their concerns about the effects of bundling on MVPD customers that only receive analog service. Also, it is not clear if the proposed unbundling applies only to programming currently on the digital tier or if the “Further Report” has more ambitious designs—such as requiring that cable networks currently on expanded basic analog service would also be made available on the digital tier. The latter would require MVPDs to use system capacity to provide duplicate programming, block the analog expanded tier feed to digital homes, and require homes receiving digital signals to acquire set-top converters for all of their televisions, whereas they may currently only have one converter.

¹⁵ See Baumann and Mikkelsen Report pp. 2-3, Hazlett Report, p. 28.

¹⁶ Further Report, p. 26.

new networks by sampling, a learning method unavailable to consumers with à la carte pricing. With mandatory unbundling, consumers would also find it more difficult to tune in to sample a show recommended through conversations or programming reviews.

The “Further Report” also assumes, with no empirical support, that consumers will have better information about new programming than a highly motivated and experienced group of MVPD programming professionals. The “Further Report” states that MVPD distribution “indicates only the cable operator’s guess about a network’s likely popularity and the value it adds to the bundle, not its actual success with viewers. À la carte reflects the viewer’s guess about the likelihood of watching a channel, at least as accurate a prediction of likely viewership.”¹⁷

While acknowledging that marketing costs would be higher under mandatory unbundling, the “Further Report” naively assumes away effects of the increased costs involved in marketing to large numbers of consumers rather than the much smaller set of cable operators. The “Further Report” states that “networks would likely find new ways to market were some form of increased consumer choice allowed. While having to solicit subscribers directly could raise networks’ marketing and advertising expenses, countless products in numerous markets manage to establish one-on-one relationships with consumers.”¹⁸ This statement completely ignores the evidence in the record of the very large marketing costs incurred by premium channels. In reality, cable networks will face additional marketing costs, once unbundled, because they must now sell their programming to consumers as well as to MVPDs. Each network must compete with dozens, if not hundreds, of other networks for the consumer’s selection. The network as a whole would have to be marketed, not just specific programs.

One way to estimate the transactional and associated marketing costs that would be incurred were a cable network to be offered à la carte instead of as part of a tier is to consider the number of subscribers to the network and the churn rate. Churn is defined as the

¹⁷ Further Report, pp. 24-25.

¹⁸ Further Report, p. 27.

percentage of households that discontinue their subscription to the network each month. If a network wants to maintain its number of subscribers, much less grow, it must replace those subscribers it loses to churn. Churn rates can be substantial.¹⁹ For instance, Showtime Networks determined that the average monthly churn rate in 2004 for Showtime, The Movie Channel, HBO, Cinemax and Starz is roughly 5.9 percent.

Consider a network with 25 million à la carte subscribers, or about 27 percent of MVPD households.²⁰ If the network's monthly churn rate is the same as that for those five premium networks, 5.9 percent, then the average annual "replacement" connects needed just to maintain the subscriber base are 17.7 million households. Using an estimate of \$16.90 in costs per connect, the annual transactional and associated marketing costs incurred by the network would be about \$300 million just to maintain its subscription level of 25 million—or roughly \$1 per subscriber per month.

Adverse Effects in Wholesale Program Markets

Although the FCC has long studied regulatory issues in wholesale programming markets, these markets are hardly addressed in the "Further Report." The FCC analysis focuses on how consumers might be affected by unbundling. The impact on program suppliers or the exact response of program suppliers to changes in the retail pricing and marketing of their networks is not studied in detail.

A program supplier's optimal promotional and marketing strategy and its associated pricing decisions would likely differ if its network is sold à la carte rather than as part of a tier. If a programmer's network is offered à la carte to some customers and as part of a tier to other customers the programmer may need two different advertising messages and marketing campaigns. Indeed, the programmer may be in a difficult position because the programming would need to appeal to the à la carte consumer and to the tier consumer,

¹⁹ Bruce M. Owen and John M. Gale, "Cable Networks: Bundling, Unbundling, and the Costs of Intervention," July 15, 2004, pp. 39-40 (hereinafter, "Owen and Gale Report").

²⁰ As of June 2005, there were 94.2 million households in the U.S. that subscribed to an MVPD. (FCC *Twelfth Annual Report In the Matter of the Status of Competition in the Market for the Delivery of Video Programming*, March 3, 2006), p. 4.

and the optimal type of programming to reach these two types of consumers may be different.

Selling national advertising time on the network may also be more difficult. The Baumann and Mikkelsen Report indicates that networks can experience disproportionate jumps in advertising revenue as their subscribership increases. That report notes that a cable network needs a subscriber base of roughly 50 million homes before national advertisers consider purchasing time on it.²¹ Moreover, the Baumann and Mikkelsen Report demonstrates that even more substantial relative advertising revenue increases occur when networks gain roughly 70 to 80 million subscribers, which they attribute to the desire among advertisers for unduplicated reach.²² These findings suggest that certain cable networks may suffer extremely large drops in advertising revenue if its program service is not marketed uniformly (i.e., on the same type of tier) by most MVPDs. Such a loss of revenue may, in turn, threaten some networks' survival.

There are other potential costs to program suppliers from mandatory unbundling. Programmers are likely to experience greater uncertainty in revenues in an à la carte pricing world. Currently, if a network obtains carriage on an MVPD it is assured a level of license fee revenue. In contrast, under an à la carte structure obtaining carriage does not guarantee any level of revenue. Moreover, a network's revenue would likely be more volatile under à la carte because it is likely that consumers would add and drop channels to which they subscribe. A significant increase in a programmer's uncertainty about revenues over the level of uncertainty that programmers now experience can affect programmers' production costs in several ways. First, uncertain revenues make the programmer's business more risky. Higher risk, in turn, normally translates into a higher cost to attract financing. Higher financing costs could deter some networks from entering or make existing marginal networks unsustainable.

²¹ Baumann and Mikkelsen Report, pp. 9-10. Baumann and Mikkelsen attribute this to increased accuracy in measurements of audience size as subscribership increases, and to the fact that the 50 million threshold represents roughly 50% of U.S. television households.

²² Baumann and Mikkelsen Report, p. 8.

Similarly, greater uncertainty about revenues will reduce networks' ability to enter into long-term commitments. Shorter commitments to input suppliers, such as talent and production services, may tend to raise the average cost of acquiring those services to compensate for greater uncertainty and permit them to recover fixed costs over a shorter period. Shorter commitments to MVPDs may reduce the demand for the programmers' product and may reduce the amount of promotional activity that MVPDs are willing to undertake. If increased revenue uncertainty reduces programmers' ability to enter long-term commitments with input suppliers and distributors, this will also tend to make networks less profitable, possibly causing some networks to exit or not to enter.

That a move to mandatory unbundling would likely harm programmers is demonstrated by nearly unanimous opposition both by established programmers and less established networks. The Hazlett Report summarizes the positions of dozens of program suppliers.²³ As Hazlett writes:

The overwhelming opposition of programmers is based on a crucial economic consideration: *each cable network needs to get its programs to where viewers can see them, and imposing à la carte will make that harder.* Providing customers with a large bundle of channels for a standard monthly fee has delivered exceedingly important efficiencies, and forcing customers to order one network at a time would eliminate those advantages. (Emphasis in original)²⁴

Effects on Entry

With mandatory unbundling, new entrants would have a more difficult time in attracting viewers than at present. Currently, new entrants can rely on easy consumer sampling of their programming once an MVPD includes them in a tier of programming networks. With mandatory unbundling, subscribers would not be able to easily sample or “surf” their programs, but would instead have to commit in advance to a network subscription in

²³ Hazlett Report, Table 10.

²⁴ Hazlett Report, p. 30.

order to view an entrant's programming. Consumers must therefore overcome potentially high information costs to be convinced to subscribe. Doing so would require increased expenditure on up-front and continuous advertising and promotion by the entrant. These potentially large up-front expenditures, which are a sunk cost that would not be recouped if the entrant does not survive, may discourage entry.

Effects on Diversity

An important policy issue concerns whether the overall number of cable networks will increase or decrease as a result of unbundling. As with the issues addressed above, a more extensive and speculative modeling effort would be required to answer these questions precisely. It is clear, however, that the short-run or partial equilibrium effect of unbundling would be to reduce the number of networks.

Mandatory unbundling of video services will reduce the diversity of programming available to viewers, thus undermining a policy goal that has been so important both to the Commission and to Congress for the past half-century that it has been pursued in spite of possible costs to consumers. The number of networks would likely decrease because of both decreasing revenues and increasing costs for individual cable networks required to be unbundled, as detailed in the above discussion. As is well known, currently many cable networks are, for a variety of reasons, unprofitable or marginally profitable. At least some of these networks will be forced out of existence by unbundling.²⁵

Mandatory unbundling would likely impose a particularly high burden on niche programmers, as networks appealing to relatively narrow segments of the population are likely to experience particularly large declines in subscribership. Michael Katz describes how dozens of niche networks, many catering to minority communities, have filed comments opposing mandatory à la carte. Many have commented that while they can thrive

²⁵ Further, it is possible that there would be a reduction in aggregate expenditure on programming by the surviving networks, which would presumably result in a reduction in average program quality.

as part of a broad, diverse tier, their very existence would be in question if they were forced to compete as an à la carte offering.²⁶

Even leaving aside the likely reduction in the number of competing networks, mandatory unbundling is likely to reduce the diversity of programming to which consumers are exposed. With bundling, as I have discussed, consumers can sample or “surf” across the various video options available to them, deciding to settle on a particular network based on the attractiveness of a quick sample of the programming. This facilitates the opportunity for content suppliers to compete for viewer attention across disparate sources and genres. The Baumann and Mikkelsen Report identifies numerous instances in which specific events or especially topical programming has produced spikes in viewership for certain networks.²⁷ Mandatory unbundling will likely reduce the diversity of consumers’ viewing habits by limiting their ability to view special events.²⁸

Curiously, the “Further Report” expresses a belief that more programming may not be desirable, in contrast to the long-standing goal of the FCC in promoting diversity of ideas and views. It states that “the First Report ignores the impact of such a mechanism on the amount of programming that is produced; i.e., it assumes that because programming is produced it should be widely distributed, without considering whether *the appropriate amount* of programming is produced.”²⁹ (Emphasis added.) The “Further Report” appears to describe the potential demise of niche networks as a positive result of à la carte pricing. “As discussed below, à la carte pricing could weed out those networks that consum-

²⁶ Michael L. Katz, “Wrong Diagnosis, Wrong Cure: An Analysis of the Claims Made by Dr. Mark Cooper in ‘Time to Give Consumers Real Cable Choices,’” August 8, 2004, pp. 25-27 (hereinafter, “Katz Report II”).

²⁷ Baumann and Mikkelsen Report, pp. 4-6.

²⁸ A more recent example of consumers choosing to view a network after sampling occurred during the Winter Olympic Games. MSNBC carried the Olympic sport of curling and saw a huge increase in viewers, “MSNBC averaged 1.6 million viewers for its U.S.-U.K. curling match, which NBC Universal said was its highest viewership delivery since the Iraqi war coverage on April 6, 2003.” *The Hollywood Reporter*, February 22, 2006. It is unlikely that this increase would have been forecast by NBC or consumers, “For example, curling on CNBC from 5 to 8 p.m., Eastern, Monday through Wednesday generated a rating that is 67 percent above what CNBC produced for various sports during the 6 p.m. to midnight period during the Salt Lake Games.” *The New York Times*, February 17, 2006..

²⁹ Further Report, p. 16.

ers value at less than the networks' costs, thereby shifting some viewers to more valuable networks.”³⁰

The “Further Report” also claims that a popular network could have increased viewership with à la carte pricing due to the loss of variety to consumers. It states that “if a large percentage of consumers choose to purchase a channel, then the channel’s subscriber base would be relatively unchanged, and *with fewer alternative channels to surf through*, we would expect consumers purchasing the channel to watch it with greater intensity.”³¹ (Emphasis added.) The “Further Report” does not appear to support the position that increased diversity is a benefit that may be worth some extra cost to some consumers.³² Again, this appears to be at odds with the Commission’s traditional support for programming diversity.

The Same Analysis Applies to Theme Tiers and Mixed Bundling

The “Further Report” also raises the possibility of mandating theme tiers. There are several problems with mandating theme tiers. First, to the extent that MVPDs compete with one another (there are now at least three major MVPDs, and sometimes more, available to nearly every consumer), a theme tier requirement would constrain the industry away from its competitive equilibrium. Policymakers generally accept the legitimacy of competitive market outcomes, if not because such outcomes optimize consumer welfare, then because there is no basis for improving matters with a regulatory intervention. In this case, forcing MVPDs to market their services in a way that differs from the strategy that best serves consumer demand seems likely to reduce economic welfare.

³⁰ Further Report, p. 25.

³¹ Further Report, p. 8.

³² Later, the Further Report provides an example where bundle pricing increases the incentives of a cable operator to carry niche programming, “As Example 4 shows, an MVPD may prefer to add niche programming that appeals to a small set of subscribers rather than add additional mainstream programming if existing mainstream programming is sufficient to attract the mainstream consumers.” (Further Report, p. 32) Interestingly, the Further Report also reports the diametrically opposite result that MVPDs will have less incentive to carry niche programming when bundling: “As shown below, networks with small, dedicated audiences may not be appealing to MVPDs providing bundles, because they may not generate enough revenue to MVPDs to be profitable to carry.” The Further Reports therefore claims that when bundling, an MVPD has less incentive to carry niche networks and less incentive to carry broadly popular networks. It appears unusual that both effects could be true simultaneously.

More generally, government-mandated tiers entail many of the same problems as à la carte pricing. Mandated tiers would reduce subscriber and advertising revenues because of reduced circulation for each network included on a tier that was not chosen by all current subscribers. Dividing the basic bundle into tiers would require consumers to pay for set-top boxes as with à la carte pricing of networks. Tiering would increase marketing, transactional, and customer support service costs. Transactional costs may even be higher than with à la carte pricing because a programmer would have to convince consumers to subscribe not just to its network, but to some tier of programming that will likely differ from one MVPD system to another. Indeed, a programmer's transactional expenditure will benefit not only itself, but whatever networks it is packaged with on the tier. Strategic interaction among networks in each tier might result in promotional expenditures greater or less than optimal levels.

Another proposal contained in the "Further Report" is "mixed bundling," whereby an MVPD must offer all the networks à la carte as well as in a bundle. Again, breaking networks out of a tier taken by all subscribers would reduce a network's subscriber and advertising revenues because of reduced circulation for the network, with attendant effects on entry and diversity. Offering any of the networks à la carte would also require consumers to pay for set-top boxes and would lead to increased marketing, transactional, and customer support service costs.³³ Thus, the effects of mandatory theme tiers or mixed bundling are likely to be directionally equivalent to other forms of mandatory unbundling.

While it is difficult to predict how *much* programming markets will be affected by mandatory unbundling, it seems clear that the likely effect would be to reduce the supply of programming, raise entry costs, and reduce programming diversity. These changes may in turn have wide-ranging effects. For instance, the reduction in programming production will certainly affect inputs into cable programming production. Perhaps less obvious are the potential effects on other related markets. How would advertisers be affected by a re-

³³ In a mixed bundling regime, consumers who subscribe to the bundle may not need a converter box.

duction in the quantity and diversity of cable network programming? What would be the impact of reduced windowing opportunities for certain programming? What effect would mandatory unbundling have on the export of U.S. produced video programming, as a result of the almost certain reduction in quality and supply of such programming?

These and many other important questions are unexplored in the “Further Report.” A major regulatory intervention such as mandatory unbundling should be based not only on a strong showing that the economics of bundling supports such a change, but also on a showing that all affected markets are not unduly disrupted, and that other policy goals are not unduly threatened. The “Further Report” meets none of these requirements. It would be irresponsible to propose this radical change without carefully considering the potentially wide-ranging effects in all of the markets involved in cable program production. Regulatory interventions, once instituted, are difficult to reverse.

The “Further Report’s” Unsound Analysis of the Welfare Economics of Bundling

The one relevant subject that the “Further Report” does attempt to address is the welfare economics of bundling video services. In deciding whether the “Further Report” provides a basis for a major policy intervention such as mandatory unbundling, an important issue is the MVPD practice of offering bundles or tiers of services to retail subscribers. Does this practice harm or benefit consumers? More specifically, what would be the effect on the economic welfare of cable networks and consumers of a regulation requiring MVPDs to offer all programming à la carte, either by network or by program, with or without continued bundling?

The first part of this question was addressed at a conceptual level above and in the many economic analyses submitted in the record before the FCC. Bundling is a universal feature of the economy, and greatly improves consumer welfare by enabling consumers to share the fixed costs of creating goods and services from component parts.³⁴ Based on current knowledge, there is no more reason to assume that bundling of cable networks

³⁴ Nevertheless, it is possible to construct hypothetical circumstances in which bundling is harmful. These circumstances are technical, not easily characterized, and differ from one market to another.

into tiers is harmful to consumers than it would be to assume that bundling individual programs into schedules (i.e., networks) is harmful, or that bundling tires with new cars is harmful.

The “Further Report’s” Incomplete Analysis of Effects in Retail Markets

The “Further Report” attempts to address this issue, in large part, by revising some of the assumptions of a Booz Allen Hamilton study.³⁵ The “Further Report” focuses myopically on an alleged numerical error in a Booz Allen study, itself a small part of the record, without giving adequate consideration to the comments and analyses of numerous other parties. (This review does not directly analyze or rely upon the Booz Allen study, except to note that the work of many other commenters provides ample support for its core conclusions.)

At a more conceptual level, it is inappropriate for the “Further Report” to infer consumer benefits simply by comparing costs of a large bundle of networks with the potential costs of a smaller set of à la carte networks. As noted above, a large bundle of networks is likely to be inherently more valuable than a smaller set of networks sold on an à la carte basis because a household derives value from the option to engage in “channel surfing” and from those occasions when it chooses to sample programming that does not appear on its regularly viewed networks. Therefore, the simplistic cost comparison between bundled and à la carte offerings overstates any potential consumer benefits from the latter.

Even putting aside these flaws, the “Further Report” suffers from a more fundamental shortcoming. The “Further Report” concludes that some consumers *may* be better off under mandatory unbundling. In doing so, the “Further Report” arguably does nothing more than make the obvious point that in the economics literature there are results where bun-

³⁵ Booz Allen Hamilton, “The A la Carte Paradox: Higher Consumer Costs and Reduced Programming Diversity, July 2004 (hereinafter “Booz Allen study”).

dling can either benefit consumers or harm consumers.³⁶ In a recent paper Timothy Brennan summarized this point:

“The economics of bundling has a long and complex history, characterized mainly by a set of results that focus on price discrimination. As with the price discrimination literature generally, bundling has been regarded as a practice with highly ambiguous consequences. Analyses of bundling by monopolists are either indeterminate or depend heavily on virtually unobservable variables such as correlations of inframarginal valuations across bundled products.”³⁷ [footnotes omitted]

The “Further Report” provides no basis for a policymaker to determine the likelihood that any significant number of consumers might benefit from mandatory unbundling. The “Further Report” offers no new data or empirical observations of “correlations of inframarginal valuations” that would support a claim that mandating à la carte pricing would benefit consumers. Thus, the “Further Report” proposes a major regulatory intervention in the competitive marketing practices of a key industry simply on the basis of the observation that mandatory unbundling might benefit a subset of consumers that prefer to purchase few channels and who might therefore have a lower total video programming bill with à la carte pricing.

In making this argument, the “Further Report” does not acknowledge that even if some consumers were better off, other consumers would almost certainly be worse off. When consumers purchase a bundled tier of networks from an MVPD, they pay a single price for the bundle but no explicit price for the individual networks contained in the bundle. In contrast, an à la carte pricing system necessarily imposes a positive price on viewing additional networks.³⁸

³⁶ “For example, results in the economics literature show that a change from bundled pricing to à la carte may either increase or decrease economic efficiency...” p. 15.

³⁷ Timothy J. Brennan, “Competition as an Entry Barrier? Consumer and Total Welfare Benefits of Bundling,” AEI-Brookings Joint Center for Regulatory Studies, Working Paper, June 2005, p. 1.

³⁸ In addition to the explicit price for subscribing to an additional network, there would be implicit associated transaction costs.

This change in the pricing structure for video programming is so dramatic that current consumer behavior regarding basic networks provides virtually no information about behavior in an à la carte pricing world. Specifically, it is difficult to estimate what portion of consumers would choose to subscribe to a given network at various alternative à la carte prices set by their MVPDs. The effect is likely to differ across networks, may vary depending on whether the network provides niche programming or general interest programming, and may depend on the number of other networks that offer a similar type of programming.

The available evidence is not sufficient, even leaving aside the general disequilibrium into which the entire industry would be thrown by mandated unbundling, to predict exactly what prices would prevail for individual networks in a pure à la carte pricing world. Nonetheless, it seems clear that the loss of subscribers will impel networks either to lower programming quality or increase fees for those viewers that continue to purchase the programming, or both.³⁹ It does seem reasonable to expect, therefore, that any MVPD subscriber who sought to subscribe to the same array of networks now available on any given tier would pay more, and quite likely much more (because of the lost advertising support and increased marketing costs) to receive the current quantity and quality of programming, and that is indeed the result that emerges from the modeling exercise presented in the Appendix to this report. Based on a simple model, I estimate that the average retail price of a basic cable network will be 9 to 20 times higher than it is currently if mandatory unbundling is required. The model indicates that consumers who subscribe to a moderate or large number of networks will end up paying more, while consumers who subscribe to only a few networks may pay less. In other words, mandatory à la carte pricing would tend to harm those consumers who take advantage of the diversity in program content that the Commission has encouraged for its entire history. However, in the longer

³⁹ Indeed, average per-subscriber license fees *must* increase if a network is to maintain existing programming expenditures and cash flow as subscribership and advertising revenues fall. Moreover, as mandatory unbundling leads to the loss of viewers least interested in watching particular networks, target audiences may narrow for networks, and programmers' rational pricing strategy may be to boost license fees as a result. On this point, see Katz Report I, pp. 16-17.

run, there is no guarantee that any of the networks preferred by either group will remain in existence, nor that the same level of investment in its programming can be expected.

The prediction of the average retail price for a basic cable network does not account for some important but immeasurable factors, such as consumer demand for individual networks and future competitive interactions among cable networks and among MVPDs. Predicting what will eventually happen, to what extent, and to which cable networks, is complicated by the fact that a rule requiring a change in marketing practices would affect all MVPDs, nearly all program suppliers and nearly all networks. Nevertheless, the lost advertising revenues and higher costs associated with à la carte pricing are likely to persist in the long run, and to result in a permanent reduction in aggregate welfare.⁴⁰

The Hypothetical Examples in the “Further Report” are Misleading

The “Further Report” presents specific, tailor-made hypothetical examples of cases in which mandatory unbundling improves welfare. There is no empirical basis for believing these hypothetical examples are more representative of reality than others with opposite effects. For instance, the example in Figure 1.a in the Economic Appendix to the “Further Report” suggests an instance in which bundling results in a transfer from consumers to the cable operator—albeit with no associated economic inefficiency. If in this example one assumes the cost of each network is \$7 instead of \$6, then it is immediately apparent that neither network would be supplied with a mandatory à la carte pricing scheme. Instead, in this simple counterexample bundling is necessary to ensure provision of both networks—an economically efficient result, given that the total value consumers place on these networks exceeds their costs.

⁴⁰ The proposed interventions are likely to reduce the size of the economic pie available to be shared by all consumers. However, despite the smaller overall pie, some consumers may be better off as measured by their surplus from consumption of MVPD services. The predicted reductions in overall welfare implicitly give equal weight to each consumer. This assumption is justified by the absence of any apparent correlation between those likely to benefit from unbundling and the characteristics traditionally associated with unequal weighting of income. In this respect mandatory unbundling resembles an economically inefficient tax that transfers income from one randomly selected group of consumers to another, reducing GNP in the process.

It is simple to construct additional counterexamples to the hypothetical cases that appear in the Economic Appendix to the “Further Report.” For instance, Figure 6 purports to demonstrate that bundling could result in “an oversupply of economically inefficient programming” based on a numerical example which suggests bundling could lead an MVPD to carry a network with an aggregate consumer value below its cost. Note that if the cost of network Y in this example were changed from \$9 to \$7, and all other values in the example remained the same, then it would not only be economically efficient to offer the network, but the network would only be offered through bundling.

Similarly, Figure 7 of the “Further Report” purports to demonstrate that bundling may lead to an inefficient oversupply of quality, because this example results in a hypothetical quality expansion, the value of which exceeds its cost. If, all else equal, one hypothesizes that the cost of the quality improvement was \$1 instead of \$3, then it is efficient to increase the quality of this network, and the cost of this improvement could only be recovered through bundling.

These counterexamples do not demonstrate that bundling *always* results in the optimal supply of networks or programming quality. Rather, they simply show that a small number of tailor-made examples, such as those that appear in the Economic Appendix to the “Further Report,” do not demonstrate the likelihood of a welfare improvement from mandatory unbundling, and they certainly provide no justification for a radical regulatory intervention such as that envisioned in the “Further Report.”

If the examples in the Economic Appendix do anything, they demonstrate that an MVPD generally has incentives to offer certain networks on an à la carte or mini-tiered basis if the provision of such programming is economically efficient. The examples in Figures 3 and 5 purport to demonstrate the inefficiency of bundling, but pure bundling is unlikely to represent an equilibrium. In both of these cases, as the report acknowledges, an MVPD (and the program supplier) would have an incentive to offer an individual network (network Z) on an à la carte pricing basis along with a bundle. Similarly, in the example in Figure 4, a profit-maximizing MVPD would have an incentive to bundle the mainstream networks for sale to the mainstream consumers, while offering the two niche networks on

an à la carte basis for purchase by the “niche” consumers. Finally, the example in Figure 8 demonstrates (as the “Further Report” acknowledges) that an MVPD would have an incentive to offer a theme tier in addition to its regular tier under certain conditions.

These examples do not demonstrate the superiority, from a policy perspective, of mandatory unbundling or theme tiers. Rather, they suggest that MVPDs already have the incentive to offer efficient alternatives to pure bundling under certain conditions. Indeed, the “Further Report” (¶¶ 84, 93) notes that MVPDs currently offer some à la carte and theme tiers. Notably absent from the “Further Report” is a convincing discussion of structural impediments that would prevent a profit-maximizing MVPD from offering alternatives to bundling if these alternatives were efficient.

The Economic Appendix to the “Further Report” suggests two reasons that MVPDs may not voluntarily offer additional options such as mixed bundling or theme tiers even if such choices were preferred by consumers. One reason is that providing additional options, while potentially beneficial to consumers, would not be profit maximizing to an MVPD. While this is a theoretical possibility, the “Further Report” has provided no analysis suggesting that it is likely to be true (and, as indicated previously, its narrow examples provide no basis to support such a conclusion). The second reason given is that even where à la carte pricing would be profit maximizing, contracts with program suppliers may limit their ability to offer such options.

There is little evidence in the record to determine the extent to which contracts negotiated between MVPDs and program providers restrict carriage of networks on particular tiers. Assuming such restrictions exist, however, the “Further Report” provides no economic explanation as to why MVPDs and program suppliers would negotiate such restrictions if it would not be in their collective interest to do so. For several examples in the Economic Appendix, such restrictions are not jointly profit maximizing for the MVPD and the pro-

gram suppliers.⁴¹ This suggests that MVPDs and networks would have an incentive to negotiate alternatives to pure bundling in such instances. If, in fact, some contracts provide incentives for MVPDs to offer specific networks only in tiers, it is reasonable to believe that there are some joint benefits to this arrangement for MVPDs and program suppliers. For instance, bundling may reduce the costs to the MVPD of offering the network to customers, or it may allow the program supplier to benefit from increased advertising revenues. These potential benefits are completely assumed away in the “Further Report’s” simplistic numerical examples, and their absence calls into question whether the examples offer any guidance whatsoever to a policy maker that is considering the effects of mandatory unbundling.

Mandatory Unbundling Would Likely Lead to Price or Content Regulation

Finally, it is important to understand that most of the questions about mandatory unbundling cannot be answered meaningfully without considering the *prices* at which various components and bundles are offered, a daunting task. With mandatory mixed bundling, in which MVPDs are required to offer as à la carte options all networks available in the bundle, it is easy to imagine that, absent pricing regulation, MVPDs would price à la carte options at a level that would discourage their choice by most consumers. This conclusion follows from the fact that MVPDs and program suppliers are not currently prohibited from offering mixed bundling, yet one rarely observes such offerings.⁴² Given this, it is reasonable to presume that MVPDs would have an incentive to favor the status quo.

This, more ominously, leads fairly directly to the conclusion that mandatory unbundling is likely to be ineffectual if it is not accompanied by regulation of prices. Of course, mandatory à la carte pricing is itself a form of price control. But policing such a requirement

⁴¹ The Further Report acknowledges this point: “In example 3,4,5, and 8 below, a profit-maximizing MVPD would prefer to offer mixed bundling, combining bundles with à la carte, or themed tiers, but might not do so based on contractual obligations.” (Further Report, p. 50) Elsewhere, the Further Report makes the simplifying assumption that the MVPD makes its decisions to maximize the joint profit of the MVPD and the networks. (Further Report, p. 48)

⁴² As Michael Katz notes, the fact that we do not commonly observe mixed bundling in the MVPD context suggests that the transaction costs associated with it are prohibitive. See Katz Report I, p. 13.

will inevitably require a deepening federal involvement in pricing details, such as the relationship between tier prices and individual network prices, and regulation of content, because of the need to police tier definitions.

Recent price regulations by the Commission (e.g., those in the telephone industry) are, from a technical economic point of view, almost trivial in comparison with what the Commission would face in determining regulated prices for intellectual property whose consumption is non-rivalrous. Efficient telephone component pricing focused on long-run forward-looking incremental cost, with controversy centering on which stakeholder would bear the burden of unrecovered historical costs. In video programming, the Commission would be faced with an economically efficient price (from a demand-side perspective) of zero, but with a potentially large positive price required to induce production of the next day's programs. The incentive effects of stranded costs would not be a side show; they would be the whole show.⁴³

Recent history clearly demonstrates the large unintended consequences that can result from price regulation. The deregulation of cable 1996 was in large part intended to remove the distorting effects of price regulation imposed just a few years earlier. In a 1997 study of cable television reregulation of the early 1990s, Hazlett and Spitzer noted the following: "In cable the private system operator's ultimate right to regulate investment flows, to shift marketing efforts, and to control the programmed content of what is offered on the basic cable package compounds the regulator's burden beyond whatever general difficulties arise in monitoring and regulating service quality. The task becomes unworkable. That is the alternative vision of price regulation."⁴⁴ Hazlett and Spitzer conclude by saying the following:

⁴³ The "Further Report" seems to accept that there will be effective price regulation of the à la carte prices with a mixed bundling structure. "Under mixed bundling MVPDs might have an incentive to set the à la carte prices high, in order to induce customers to buy the bundle" (Further Report, p. 39). This implies that in order for consumers to reap the claimed benefits of a carte pricing, prices would have to be regulated to ensure that the à la carte prices are low enough to induce some significant portion of subscribers to opt for à la carte selections.

⁴⁴ Public Policy Toward Cable Television, Thomas W. Hazlett and Matthew L. Spitzer, The MIT Press, Cambridge Massachusetts, London, England, 1997, pp. 206-207.

The challenge of those that would reinvent rate regulation is significant. Whereas price competition has demonstrably led to increased consumer satisfaction in those cable markets where it has flourished, the market failure of price controls should inform the debate over regulation more generally. The evidence suggests that the burden of proof be shifted: whatever difficulties are involved in promoting competition in the near term, it is rate regulation that must prove its viability, even as an interim substitute. Through the experiment of deregulation in the 1980s and the reverse experiment of reregulation in the 1990s, rate regulation of cable television systems has yet to do so.⁴⁵

In addition to potential price regulation, theme tiering might spur *content* regulation. That is, mandatory theme tiering is not a content-neutral regulatory intervention. Under theme tiering it would be necessary to determine specifically what networks would appear on various tiers, and it is unclear who makes these difficult network placement decisions.⁴⁶ Defining tiers by theme is complicated by the fact that networks are themselves bundles of (often diverse) programming, so decisions about whether networks belong on tiers intended to follow particular themes would not be straightforward. More fundamentally, the essence of this kind of intervention is to organize content in a way different from the way the MVPD would like to organize and market it. This raises constitutional objections that the Commission and the courts would have to address.

⁴⁵ Hazlett and Spitzer p. 217.

⁴⁶ That is, theme tiering raises the issue of whether the MVPD controls how many tiers are offered and what is carried on each tier or if this is left to regulators or the courts.

APPENDIX: A Simple Model of Pricing Impact from Mandatory Unbundling

A complete general equilibrium model of consumer demand, network programmer supply, and MVPD system pricing is beyond the scope of this paper. But in order to provide some gauge of possible impact on consumer prices, this Appendix, which first appeared in a 2004 report I wrote, develops a simple model of the effect on subscriber prices of imposing à la carte. In this model, I do not check to see whether the resulting predictions of prices are consistent with a competitive equilibrium. While I have made some simplifying assumptions in order to arrive at my estimates, the results are nonetheless instructive.

The analysis that follows focuses on the 110 cable networks for which Kagan Research provides 2003 data.⁴⁷ The analysis begins with an assumption as to the percentage of current subscribers that would continue to subscribe if à la carte pricing were required. I select three different subscriber retention rates: 10 percent, 20 percent, and 30 percent.⁴⁸

For the reasons discussed above, there is likely to be a loss of advertising revenue if unbundling is required. In order to account for the effect of lost advertising revenue on wholesale cable pricing, I select three different levels of advertising revenue retention: 80 percent, 60 percent, and 40 percent. The assumption is that those consumers who continue to subscribe to a particular cable network with à la carte pricing are the core viewers of the network. Hence, regardless of how many subscribers are retained, it is likely that the percentage loss in advertising revenue will be less than the percentage loss in subscribers.

Programmers also are likely to incur additional marketing costs if à la carte pricing is imposed. In order to account for that effect on wholesale network pricing, I estimate the additional transactional marketing and associated costs of each network. I assume that a network's monthly churn rate is the same as that for the existing premium networks, 5.9

⁴⁷ Kagan Research, *Economics of Basic Cable Networks 2005: Key Spreadsheets*, June 2004.

⁴⁸ These values seem to cover the reasonable range of subscriber retention given the current take rates of the premium cable movie networks.

percent, and that the average transactional marketing and associated costs are about \$16.90 per connect per year. Therefore, the additional expense the network incurs to replace those subscribers it loses to churn is about \$1.00 per subscriber per month.⁴⁹

In the real world, networks can respond to unbundling in a variety of ways. To facilitate an illustrative analysis, I assume that networks will raise license fees in order to offset any decline in subscriber or advertiser revenues and any increase in marketing costs, rather than lowering program expenditures. These assumptions permit me to calculate a network's wholesale price (license fee) to the MVPD systems. I then assume that MVPD systems apply a uniform 90 percent markup over wholesale price to calculate each network's à la carte retail price.⁵⁰

Using these assumptions, I estimated à la carte retail prices for each of the 110 networks. I then compute the average price of a network with à la carte pricing.⁵¹ The results are presented in the table below. For example, assuming that networks increase subscriber fees to recover lost subscriber and advertising revenue and increased transactional marketing costs, that networks retain 30 percent of their subscribers and 80 percent of their advertising revenue, and a 90 percent markup of the wholesale price, the average price of a network with à la carte pricing would be \$3.39.

⁴⁹ The annual cost to replace subscribers lost to churn equals $\$16.90 \times 5.9\% \times 12 \times \text{subscribers}$. Therefore, the cost per subscriber per month equals $\$16.90 \times 5.9\%$, or about \$1.00.

⁵⁰ The assumption of 90 percent markup appears to be in line with recent MVPD markups. NCTA estimated 2003 basic cable subscriber revenue at \$28.962 billion and 2003 premium subscriber revenue at \$5.192 billion. (NCTA, *Cable Developments 2004*, p. 14.) Basic cable subscribers were reported at about 73.4 million in 2003. (NCTA, p. 8.) This implies basic and premium subscriber revenues of \$38.79 per subscriber per month. In its 2002 cable industry survey, the FCC found that the average price of the basic service tier was \$14.45. (FCC, *Report on Cable Industry Prices*, MM Docket No. 92-266, July 8, 2003, at Table 1.) This implies that subscribers paid about \$24.34 per month for the programming beyond the basic service tier. Total cable programming expenditures, including license fees, copyright fees and investments in local original programming, was estimated at \$11.46 billion, or \$13.02 per basic subscriber per month. (NCTA, p. 13.) The markup of \$11.33 over programming costs implies an estimated markup of 87 percent. This estimate understates the actual markup. The basic service tier often includes some basic networks, so some of the \$14.45 should be considered payments to networks. The payment to networks or \$13.02 is overstated because programming expenditures include local programming expenditures. Making these adjustments would increase the estimated markup.

⁵¹ Throughout this appendix, the average price of a network is computed as the subscriber-weighted average price of the 110 networks included in the analysis. All prices reported are retail prices.

Weighted average retail price of a network with à la carte pricing

Advertising Revenue Retention	Subscriber Retention		
	30%	20%	10%
80%	\$3.39	\$4.13	\$6.37
60%	\$3.61	\$4.46	\$7.03
40%	\$3.83	\$4.79	\$7.70

In contrast, currently the average retail price of a network is \$0.38.⁵² Hence, after unbundling, the average retail price of a network is estimated to be 9 to 20 times higher than it is currently.

The mechanism for this result is clear: as either the advertising revenue retention rate or the subscriber retention rate falls, the average retail price of a network increases. A decline in subscriber retention rates from 30 percent to 20 percent, holding the advertising revenue retention rate constant, increases the average price of a network by slightly less than \$1.00, but a decline from 20 percent to 10 percent increase the average price of a network by over \$2.00 to almost \$3.00. If the advertising revenue retention rate declines from 80 percent to 60 percent, holding the subscriber retention rate constant, the average price of a network increases by 22 cents to 66 cents; a decline from 60 percent to 40 percent has the same effect.

At the mid-point of the ranges considered—20 percent subscriber retention and 60 percent advertising revenue retention—the average price of a network is \$4.46. At this price, the average cost per subscriber (exclusive of the basic tier fee and converter box fee) for 10 à la carte networks would be \$44.60.⁵³ Adding the cost of the basic service tier and one converter box, the average consumer would pay \$63.92 for basic service and 10 cable

⁵² This is based on Kagan Research's estimates of subscribers and license fees for each of the 110 networks, and assumes a 90 percent retail markup of license fees.

⁵³ Nielsen reports that the average cable household tuned to 17 different channels for at least 10 consecutive minutes during a recent survey week. While this count includes broadcast networks, and probably understates the number of different channels tuned to over a longer period of time, I conservatively use 10 cable networks in this example.

networks.⁵⁴ This is more than 50 percent higher than the Commission's estimated 2002 average programming and equipment charge of \$40.11 for basic service, equipment and 46 satellite delivered cable networks.⁵⁵

It is possible that a network may respond by decreasing expenditures on programming quality instead of raising license fees. However, any decrease in program quality is a cost to consumers, equivalent to a price increase. It is also quite possible that a network may not be able to recover from the decrease in revenues and increase in costs and may simply fail. Absent much better information on consumer demand for individual networks, as well as assumptions about the nature of and the path to the new industry equilibrium, it is not possible to predict which networks will fail. But it is reasonable to believe that at least some networks will be forced out of existence by unbundling.

⁵⁴ In its 2002 cable industry survey, the FCC found that the average price of the basic service tier was \$14.45 and the average price of a digital converter box was \$4.87. FCC, *Report on Cable Industry Prices*, MM Docket No. 92-266, July 8, 2003, at Tables 1 and 10.

⁵⁵ Id.

Attachment 5

BENEFITS OF BUNDLING
AND
COSTS OF UNBUNDLING CABLE NETWORKS

BY
MICHAEL G. BAUMANN
AND
KENT W MIKKELSEN

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ECONOMISTS INCORPORATED

WASHINGTON DC

Executive Summary

The Walt Disney Company requested us to assist in preparing responses to some of the issues raised in the Federal Communications Commission's recent public notice.¹ Our principal conclusions about retail bundling of cable networks can be summarized as follows:

- Retail bundling of cable networks provides numerous benefits to consumers as well as networks.
 - Bundling is a commonplace and efficient method for delivering a wide range of products to consumers.
 - Bundling is an economically efficient way to offer programming since distributing programming to subscribers costs roughly the same regardless of the number of cable networks delivered—as long as those networks can be bundled. It lowers transaction costs and equipment costs that would otherwise be borne by consumers and by cable and satellite operators.
 - Bundling offers an enhanced product that most consumers prefer. It allows for occasional and spontaneous viewing of special news, sports, documentary, and movie programming.
 - By allowing subscribers to sample new programming services, bundling facilitates entry by new cable networks.
 - Bundling reflects the economic reality that programming is a “non-rivalrous” good—i.e., once a television program has been produced there is no additional production cost associated with letting an additional person view it—that

¹ FCC, “Comment Requested on A la Carte and Themed Tier Programming and Pricing Options for Programming Distribution on Cable Television and Direct Broadcast Satellite Systems,” MB Docket No. 04-207, May 25, 2004.

should be provided and priced in a way that does not deny consumers benefits that cost society nothing to produce.

- A government mandate that results in retail unbundling is an inappropriate response to any concern about cable subscription rates and is likely to harm consumers.
 - Unbundling is likely to raise rates to subscribers so that consumers could end up paying substantially more than they do now for the present collection of basic cable networks.
 - Unbundling may reduce cable network programming expenditures, leading to a reduction in program quality and selection.
 - Unbundling would make advertising less efficient and less valuable, leading to increased subscription rates.

The appeal of unbundling is that it appears to offer benefits to the average subscriber. Unfortunately, this appearance rests on the fallacy of composition. The fallacy is to assume that what is true for a part must be true for the whole. The benefits of unbundling that seem so apparent at the individual level would not be available if unbundling were widespread or universal.

Any individual subscriber could benefit if he could opt out of some networks in the bundle offered by his cable or satellite operator and lower his subscriber fee by the amount of the license fee charged for those networks. However, this assumes that the payment he makes for the networks he keeps remains unchanged. And this may be true if he is the only individual who purchases a la carte.

However, if a substantial number of subscribers purchased a la carte, there would be a sizeable impact on the revenues of all cable networks. Initially, cable networks would lose revenues due to the decline in subscribers and would lose advertising revenues due to the decline in viewers. Additionally, if a la carte is imposed, networks would likely incur additional marketing costs as they seek to attract subscribers. To

maintain their current levels of expenditures on programming, networks would have to offset these revenue losses and increased costs with increased license fees.

In aggregate, if all networks sought to maintain their current level of programming expenditure (and cash flow) then the total amount paid by all subscribers not only must equal what was paid before unbundling but must increase to offset the decline in advertising revenue and the increase in marketing costs. Hence, if programming quality on all networks were to stay the same, subscribers on average would pay more.

Of course, it is possible that instead of raising license fees a cable network may respond by decreasing programming expenditures. However, any decrease in program quality is a cost to consumers. The consumer is getting less. It is also quite possible that some networks may not be able to recover from the decrease in revenues and increase in costs and would simply fail. This would decrease the variety of programming available to consumers.

I. BACKGROUND ON BUNDLING

Bundling is a commonplace and efficient method for delivering a wide range of products to consumers. Bundling is nothing more than the sale of goods in fixed proportions. With cable and satellite television, in order to watch some networks one must subscribe to all the networks that come in a particular package or tier of service. There are many reasons why it is efficient for potentially distinct products to be bundled. Products may be bundled in order to lower transaction costs, exploit scale and scope economies, or enhance the attractiveness or convenience of the product to consumers. For example, shoes are sold with laces because it is more efficient (*i.e.*, it has lower transaction costs) than selling the shoes and shoelaces separately. For another example, each network is itself a bundle of individual programs, each of which could in principle be sold separately using a pay-per-view system.

Newspapers are a familiar example of an efficient bundle. In order to read the sports section of the *Washington Post*, one must buy the whole paper. Not everyone who purchases a daily newspaper reads each section, and each section could be sold separately. But it is efficient to sell the sections in a bundle for at least three reasons. First, there are economies in having all of the sections delivered at once, rather than having separate deliveries for each section. Second, subscribers receive some value by having the *option* to look at all of the sections, even if they usually do not read all of the sections. For example, subscribers who typically do not read the sports section may read it during special events, such as the Olympics. Subscribers can avoid the cost and inconvenience of having to order this section when they want it. Also, by scanning the entire paper subscribers may find an article of interest, which they would not see if the sections were sold separately. This option has value to subscribers. Third, by expanding the potential readership of the entire paper and by eliminating the need for duplicative advertisements, bundling also makes advertising more valuable and more efficient. Hence, for advertisers there is a synergistic effect from bundling. An increase in advertisers' willingness to pay for circulation, other things equal, tends to reduce the price the newspaper charges for subscriptions.

Exploitation of market power is not a common reason for bundling. Almost every good and service available in the marketplace is a bundle of components, most of which could, in principle at least, be sold as separate products. Bundling is common because it lowers costs and prices and gives firms competitive advantages by improving their ability to satisfy consumers. As a general matter, a regulation requiring a firm with market power to unbundle would not diminish the firm's market power. Forced to unbundle, the firm would still sell the components of the bundle at monopoly prices. Consumers themselves would have to supply the search, acquisition, and assembly services; the effective price of the components sold separately would be higher than the monopoly price of the bundle.²

II. REASONS FOR BUNDLING CABLE NETWORKS

Bundling is an economically efficient way to offer cable network programming. It lowers transaction, marketing, and equipment costs that would otherwise be borne by consumers, programmers, and cable and direct broadcast satellite systems. (Cable and direct broadcast satellite operators will be referred to together as multichannel video programming distributors or "MVPDs.") Bundling allows for occasional and spontaneous viewing of special news, sports, documentary, and movie programming. Bundling offers the option to view networks during special programming events. In addition, bundling facilitates entry by new and niche networks by allowing subscribers to sample new programming services.

Bundling Saves Transaction and Equipment Costs

Transaction costs underlie the efficiency of bundling of networks. If bundling were not permitted, all subscribers would face increased transaction costs and many subscribers would face additional equipment costs. Transaction costs include the time it

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A firm may have market power over some but not all of the components of the bundle. Given that condition and several additional conditions not applicable to the cable network industry, such a firm can in theory have an incentive to bundle so as to "leverage" its market power in ways that are harmful to consumers, and which may offset some or all of the efficiencies of bundling.

takes to collect information about the programming available on the various networks. Because subscribers could not easily sample networks to which they do not subscribe, search costs would be higher. Some consumers would fail to subscribe to networks they would in fact have chosen had they been adequately informed about them. The cable networks' costs and the MVPDs' costs will also increase as they attempt to provide this information to subscribers. While a cable network and an MVPD have an incentive to make this information available, providing this information to all subscribers is costly and would likely be reflected in the rates charged for the individual cable networks.

The subscriber would also incur costs if he had to contact the MVPD to add or delete a cable network. These costs would be incurred when there is a new network that the subscriber wants or when the subscriber no longer wants a network currently being purchased. Since the operator is likely to have to add additional customer support and technical staff to deal with the increased number of transactions, there would likely be a charge for each modification to a subscriber's portfolio of networks.

In addition to these transaction costs, many cable subscribers will have to purchase or rent additional equipment. If cable networks are offered a la carte then cable operators will need to scramble the networks' signals, which would require subscribers to use addressable converters or descrambler boxes. While some subscribers already have such converter boxes to receive premium, pay-per-view, or digital programming or to receive direct broadcast satellite service, only about one-half of MVPD households currently have them.³ Subscribers without a converter box would have to buy or rent one for each television that they use to watch cable network programming. The Commission reports that the average rental rate of a digital converter box was \$4.87 per month in July 2002.⁴ Hence, the additional cost to a household that needs converter boxes for two

³ The National Cable and Telecommunications Association estimates that there are about 23 million digital cable households and about 22 million DBS households. Combined, these households represent slightly less than one-half of the estimated over 90 million total MVPD households. See, <http://www.ncta.com/Docs/PageContent.cfm?pageID=86>.

⁴ FCC, *Report on Cable Industry Prices*, MM Docket No. 92-226, July 8, 2003, Table 10.

televisions would be \$116.88 per year, and the additional cost to a household that needs converter boxes for three televisions would be \$175.32 per year.⁵ Even households that currently have a converter box may face additional costs if they do not have one for each television set that they use to view cable network programming.

Bundling Provides Subscribers an Option to View

MVPD subscribers sign up for service on the basis of some expectation about the nature of the service, but most new subscribers (perhaps most subscribers) are not familiar with the programming on each of the networks offered. Indeed, some may subscribe partly or chiefly for the option to view certain networks only during special programming events. In any case, both new and established subscribers are buying certain services that they know, as well as an option to sample all the remaining services. The option is valuable in itself, and there is some willingness to pay for it even though the consumer may be unfamiliar with many of the networks. Of course, the option exists and conveys value only to the extent that the subscriber can (a) freely sample all the services in the bundle and (b) freely choose to consume any of the services, without incurring further search and transaction costs.

Subscribers clearly value the option to view a wide array of cable networks, because ratings information demonstrates they consistently exercise that option. For example, networks that typically receive low levels of viewing can get ratings spikes when a special program is carried. These special programs could be major news stories, major sporting events, special movies, controversial programs, or documentaries. Such spikes in viewership represent subscribers exercising their option to occasionally view a particular network. Examples include the following:

- The Weather Channel receives higher ratings during periods of bad weather. On September 18, 2003, during Hurricane Isabel, its daily rating was 1.3 compared to its average daily rating of 0.3. The Weather Channel averaged a 0.7 rating for the

⁵ Kagan Research reports that the average television household has about 2.6 television sets. See Kagan Research, *Digital Television*, April 29, 2004, p. 5.

last three weeks of December 2000 due to the winter storms from December 11 to December 31. In comparison, the Weather Channel averaged a 0.3 rating for the month of January 2001.

- CNN viewership is much higher during certain news events. High-profile event coverage averages between a 1.0 and a 2.0 rating, compared to a normal average rating of 0.4. News stories that temporarily increased viewership include the Clinton impeachment hearings, the disputed 2000 presidential election, the September 11th attacks, the war in Afghanistan, and the war in Iraq. For example, CNN's adult 18-49 ratings went from 0.1 in 2Q01 to 0.4 in 3Q01 as the network provided round-the-clock coverage during and following September 11th, and its average ratings went from 0.6 to 2.25 as the war in Iraq was being covered in March and April 2003.

- Fox News Channel also experienced increased viewing during these major news events. For instance, Fox News Channel experienced ratings spikes for its 2003 special reports on Iraq military action, which received ratings over 7.0 versus the network's average daily rating of about 1.0. The network's average daily rating during the war coverage in March and April 2003 was about 3.0. For the 15 months prior to the 2000 presidential election Fox News Channel's average rating was 0.3. For the eight months following the election's resolution, Fox News Channel's average rating was 0.5. Because subscribers had access to this additional news choice and sampled it during these major events, it appears that more viewers have decided to watch Fox News Channel on a regular basis.

- MSNBC also showed rating spikes with news stories. During its coverage of the Iraq War in March and April 2003, the network's average daily rating increased to 1.3 from 0.3. In addition, MSNBC saw a spike in viewership during its coverage of the 2000 Summer Olympic Games.

- MTV receives about a 0.6 rating on an average day. In 2002 and 2003, on the day that MTV aired the Video Music Awards the average daily rating jumped to over 2.0. In 2003, the rating for the MTV Video Music Awards program itself was 8.1.

- Court TV carried the O.J. Simpson trial in 1995. The network achieved a rating of 1.0 over the nine months of live coverage. During the nine months that followed the trial, the network achieved only a 0.08 rating.
- The Learning Channel receives about a 0.6 rating on an average day, but its special program, Trading Spaces \$100,000 Challenge, had a rating of 7.0.
- The Arts & Entertainment Network experiences an increase in its average daily rating from 0.6 to between 1.2 and 1.6 when it runs a *Law & Order* marathon.

Appendix A lists additional examples of spikes in viewership.

Bundling Facilitates Entry of New Programming Services

In many respects, bundling facilitates the launch of new and previously unsampled programming services, contributing to the diversity of programming available to the public.⁶ New and niche programming services benefit greatly from their association with well-established networks within the bundle. Through that association, these services have the greatest opportunity to be sampled and hence to find an audience.

Bundling Increases Advertising Revenue

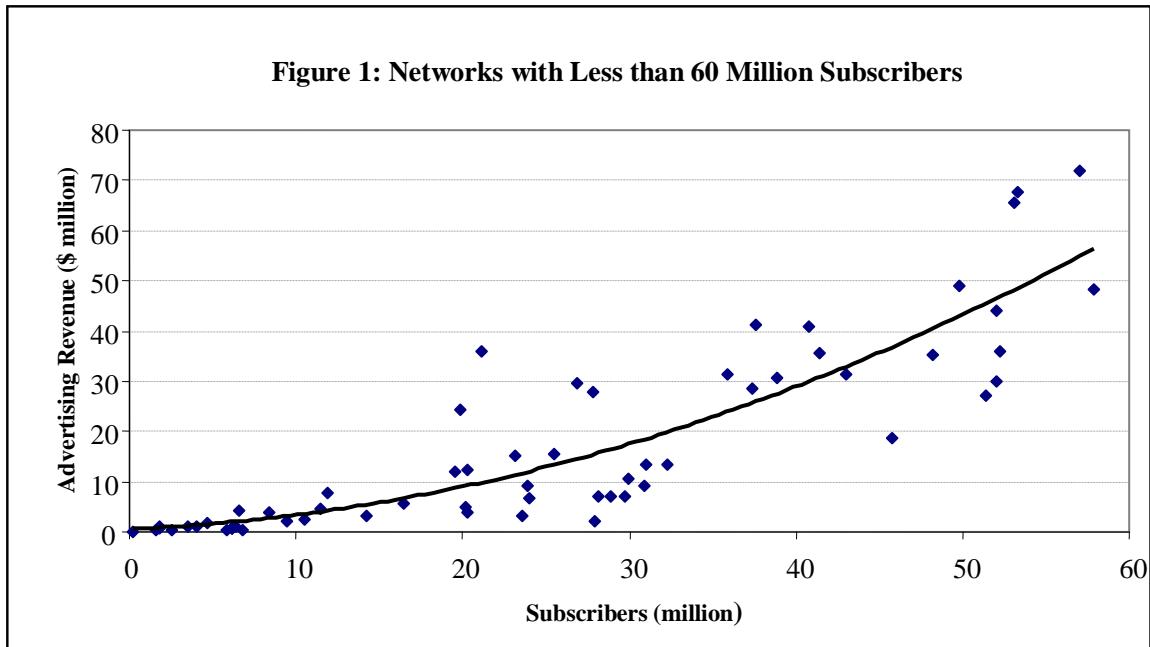
As discussed above in the context of newspapers, expanding viewership makes advertising more valuable to the advertiser. Even though some subscribers may sample and view a network service infrequently, those subscribers contribute to the audience of the network and hence increase the value of the network to advertisers. As a consequence, the network is more valuable to the programmer and the MVPD in terms of its ability to generate advertising revenue.

⁶ FCC Chairman Michael Powell stated: "...one thing I've often heard is that a lot of channels that survive on cable also survive because they are anchored to marquee products that allow the support of other networks that really wouldn't be ready to stand alone. If you did an a la carte thing purely, what you would do probably is kill a significant amount of diversity, because there would be a whole lot of channels that were not able to viably stand alone on a per-purchase basis." *Electronic Media*, June 11, 2001, at 30.

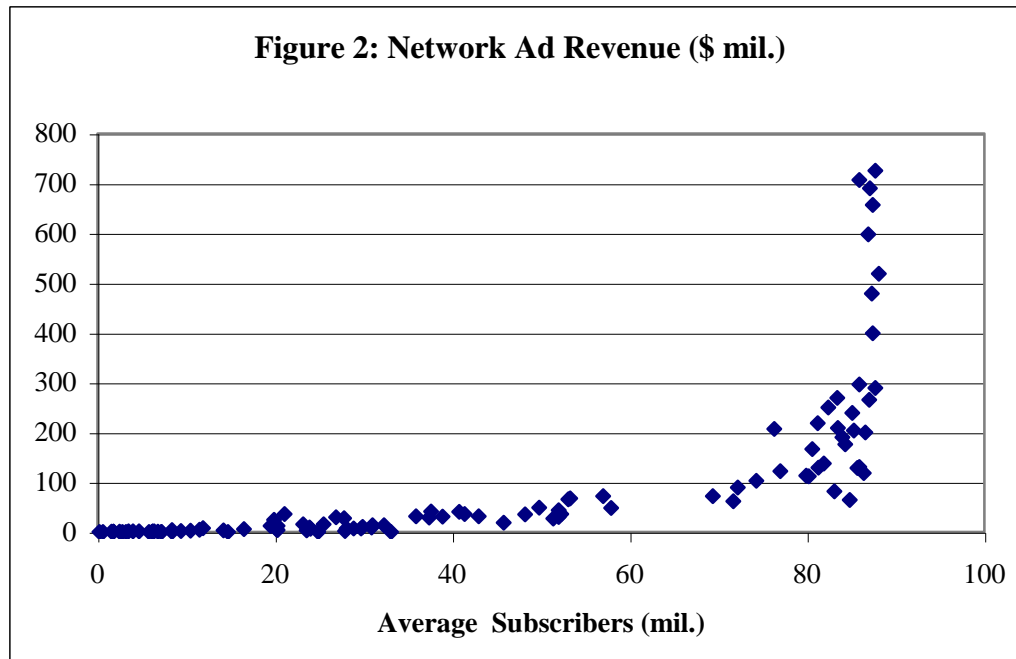
Network advertising revenues are determined primarily by two factors: the number of viewing opportunities, known as impressions, supplied by the network and the price charged for those impressions, usually expressed as the cost per thousand impressions (CPM). The advertising revenue earned by a network can be thought of in basic terms as CPM times impressions. Two determinants of the number of impressions are a network's circulation (i.e., the number of MVPD subscribers or its subscriber base) and its viewership (as reflected in ratings).

It is sometimes simply assumed that the advertising revenue earned by a cable network is directly proportional to its subscriber base. The reasoning behind this belief is that as a network's subscriber base grows, the number of potential viewers grows proportionately. If the quality of programming and, therefore, ratings are constant, then the number of impressions should increase linearly with increases in subscribers. A network's subscriber base can grow as additional MVPDs carry the network and as more consumers subscribe to MVPDs. There is some support for this simple relationship for networks that do not yet reach all MVPD subscribers (e.g., new networks that are still being added to additional MVPDs). Figure 1 shows net advertising revenue in 2003 plotted against the number of subscribers for cable networks with fewer than 60 million subscribers.⁷ Figure 1 shows that for these networks there is clearly an effect of the number of subscribers on advertising revenue, although it is not strictly proportional.

⁷ Data are from Kagan Research, LLC, *Economics of Basic Cable Networks 2005: Key Spreadsheets*, June 2004. This excludes those networks that do not sell advertising.



However, as a network obtains carriage on most MVPDs and reaches around 70 to 80 million subscribers this relationship breaks down. Figure 2 depicts net advertising revenue in 2003 for 105 cable networks plotted against their subscriber bases. As Figure 2 makes clear, though the size of the subscriber base is important, advertising revenue is not solely a function of subscribers for networks beyond a certain subscriber level. Several factors affect the CPM that impressions can command in the advertising market. The demographic characteristics of the viewers are obviously important to advertisers. Two factors that are not as obvious are the accuracy with which impressions are measured and the reach of the network.



Discussion with ABC Network and ESPN Network advertising sales personnel indicated that, as a rule of thumb, a cable network currently needs a subscriber base of around 50 million households before most national advertisers consider purchasing time on it. One reason for this is the desire for accuracy in measurements of audience size. Nielsen estimates the number and type of viewers for television programs based on a small sample of viewers. Therefore, if a program does not reach certain minimum viewing levels, its ratings are highly variable and statistically less reliable. We have been informed that Nielsen ratings are not normally available for networks with less than 20 million subscribers and are usually not statistically stable for networks with less than about 50 million subscribers. There are advertisers who want reliable ratings information on a network before considering purchasing advertising on that network. Therefore, when a network reaches approximately 50 million subscribers, there can be a jump in the CPM it can charge. Thus, bundling can increase CPM through helping a cable network reach a larger audience.

Another reason behind this rule of thumb is that national advertisers prefer broad reach and it is at the 50 million subscriber level that a cable network is available to about

half of all TV households. National advertisers see value in reaching a broad cross section of viewers at one time. Therefore, advertisers are willing to pay more per viewer for large sets of viewers. For example, an advertiser might purchase two ads that each deliver 500,000 viewers. But because there is likely some overlap in the audiences of these two ads, and the total viewers reached is likely less than one million, that same advertiser typically will pay more for an ad that delivers one million unduplicated viewers. Advertisers value unduplicated reach, and pay a premium for a larger audience. For this reason, a 20 percent increase in audience size will increase advertising revenue by more than 20 percent for widely distributed networks.⁸ This is one reason that broadcast networks still have higher CPMs than cable networks. Without bundling, the gap would be wider still, resulting in lower advertising revenues for cable networks.

Bundling Helps Achieve Distributive Efficiency

From the point of view of economic welfare it is important to distribute a program or network at a low marginal cost, while preserving incentives for programmers to invest. Programs are what economists call “non-rivalrous” or “public” goods—once a program exists, it costs nothing to let one additional viewer enjoy it. Therefore, it is inefficient to charge a price that excludes viewers who place any value on the program. Of course, there has to be a way to pay programmers, or there will be no programs. Bundling helps to solve this dilemma. Once a household is wired to receive cable or satellite, there is essentially no social cost associated with allowing the household to receive more signals. Viewers, for their part, typically receive some positive enjoyment from additional signals. Bundling cable networks, and pricing the bundle so that consumers do not pay more for viewing additional hours or additional networks, increases social welfare. For example, bundling makes economically feasible certain programming and cable networks that could not be supported with a la carte pricing.

⁸ For empirical support see Franklin M. Fisher, John J. McGowan and David S. Evans in “The audience-revenue relationship for local television stations,” *The Bell Journal of Economics*, Autumn 1980, pp. 694-708.

Pay Services That Have Joined the Bundle

In recent years there has been a migration of premium services onto the basic services tier. Examples include Bravo, Disney and virtually all of the regional sports networks. These moves indicate a belief that being part of a bundled service tier is important to the economic success of the majority of programming services. Analogously, on-line services such as AOL have moved from per-hour to flat rate pricing, as have cell phone service suppliers. It seems that for any given expenditure, consumers prefer not to have to deal with metered usage.

Disney Channel is one of the services that migrated from being a premium service to a basic service during the 1990s. As a result of this move, Disney Channel increased its distribution from about 5 million premium subscribers to over 80 million basic subscribers.⁹ Disney Channel was also able to reduce its expenditures on acquiring subscribers and focused more of its marketing efforts on getting consumers to watch its programming. As a result of having a larger subscriber base and greater license fee revenue, Disney Channel increased its programming expenditures, particularly its spending on original programming. With a larger subscriber base, in an effort to attract a larger audience, Disney Channel began targeting some of its programming toward narrower segments of the market. As a result, Disney reports that Disney Channel has increased its ratings, reach, and audience composition of African-American and other minorities since 2000.

Discriminatory Incentives for Bundling

Economic literature offers still another explanation for product bundling that depends on the incentive to discriminate among heterogeneous consumers. Bundling can be viewed as an implicit way to charge a higher price to those consumers who most value some components of the bundle and a lower price to those who value those components

⁹ Kagan Research, *Economics of Basic Cable Networks 2005: Key Spreadsheets*, June 2004.

least. Gregory Crawford presents an analysis of discriminatory incentives to bundle in the cable industry in a recent article.¹⁰

Prof. Crawford's results suggest that, on balance, bundling increases overall social welfare in cable television. Therefore, there would be social losses from unbundling. Crawford also finds that there are important distributional effects across consumers. The consumers who would lose most from bundling are those that place high value on only one or a few networks in the bundle, but are still willing to purchase the bundle. By contrast, bundling permits firms to lower prices (relative to the sum of unbundled prices) to the benefit of consumers that place moderate value on a large number of networks.¹¹

Prof. Crawford recognizes, but does not incorporate into his analysis, the cost savings generated by bundling and therefore his results likely understate the social gains from bundling. He notes,

The least cost method of providing any cable service is to bundle all the programming. This is due to the underlying technology of video program distribution: all television networks are transmitted to each customer's home. It is *unbundling* networks that is costly, requiring methods to prevent consumption by non-subscribers. (Page 9, emphasis in original.)

Additionally, referencing a recent GAO report, Prof. Crawford discusses two additional reasons why cable systems do not unbundle basic and expanded basic services.¹²

¹⁰ Gregory Crawford, "The Discriminatory Incentives to Bundle in the Cable Television Industry," University of Arizona (working paper), April 2, 2004.

¹¹ Ignoring costs, Prof. Crawford finds that (discriminatory) bundling causes average consumer welfare to fall. (Page 20) It should also be noted that Prof. Crawford's study is based on cable industry data from 1996. That era is prior to the emergence of EchoStar and during the start-up period of DirecTV. The increased competition since 1996 may have allowed subscribers to capture a larger share of the benefits from bundling than they captured during the time period used in Prof. Crawford's analysis. This would reduce or eliminate average consumer welfare loss from bundling. Also, as discussed *infra*, Prof. Crawford does not incorporate the cost savings of bundling into his welfare analysis.

¹² GAO, *Issues Related to Competition and Subscriber Rates in the Cable Television Industry*, October 2003 ("GAO Report").

The first is that not all consumer[s] opt for addressable converters, even when offered by their system. Uniform deployment of converters, while likely in the long-run, could be costly at present. This raises the costs of unbundling. The second is that *networks* do not want to be unbundled. The average cable network earns about 50% of its revenue from advertising (GAO (2003)). Unbundling would clearly reduce the set of consumers that could watch a network and likely reduce the number that do watch. This would plausibly reduce advertising revenues and require uncertain increases in license fees to compensate.” (Page 10, footnotes omitted.)

Nevertheless, his paper does not incorporate the cost-saving incentives to bundle, but rather focuses only on the price discrimination incentive to bundle.

Appendices B and C contain two simple models that show how subscribers may benefit from bundling. The model in Appendix B considers three consumers and two programming choices. The model illustrates that consumers can be better off with bundling than with a la carte. Appendix C presents a richer model. It contains a continuum of consumers, but still focuses on two programming choices. The model illustrates that pure bundling can produce greater consumer benefits than either a la carte or mixed bundling (a combination of a la carte and bundling), even ignoring the additional costs associated with unbundling. This is because, ignoring costs and given the model’s assumptions, while some consumers may gain from a move to either a la carte or mixed bundling, more consumers will lose. In fact, in the model, most of the existing subscribers to the bundle are made worse off by unbundling. Uncertainty over how specific consumers will be affected is itself a strong argument against government intervention that results in retail unbundling.

III. EFFECTS OF UNBUNDLING

A government mandate that results in retail unbundling would be inefficient and harmful to cable networks, MVPDs, and consumers. Unbundling would likely reduce the number of subscribers to any cable network, and hence reduce license fee revenues (at current prices). It is also likely to reduce both a cable network’s advertising revenue and an MVPD’s advertising revenue. Additionally, it will increase a cable network’s costs, an MVPD’s costs, and a consumer’s costs. The cable network will look to offset this

revenue loss and increased cost by increasing the license fee to the MVPD and/or by reducing the quality of its programming. The MVPD will respond by charging a la carte rates to its subscribers that exceed what subscribers now pay for the same collection of networks. These and other effects of unbundling are discussed below.

The analysis focuses on pure a la carte. As defined here, pure a la carte means the MVPD charges a flat fee for the basic service tier—consisting of broadcast television and PEG programming—and sells all other programming a la carte. Many of the conclusions also apply in a “mixed” environment. For instance, cable networks could be offered both a la carte and bundled by the same MVPDs, or a cable network could be offered a la carte by some MVPDs and bundled by other MVPDs. The conclusions also apply to cable networks that are split apart from other bundled networks and placed in a “theme” tier. The analysis considers how basic cable networks might be affected by unbundling and what impact this might have on consumers. The impact on MVPDs, or the exact response of MVPDs to changes in wholesale program pricing, is not examined in detail.

Impact on Consumer Demand

If a cable network were unbundled and offered a la carte, the immediate effect would likely be that it would lose subscribers. Previously, any consumer subscribing to the bundle received the network at no incremental cost; now, subscribers would be required to pay some positive price for the network. The consumers most likely to decline the network a la carte are those that place the lowest value on the network. The value of the network will differ from consumer to consumer, and will be affected by many factors, including consumers’ income, the attractiveness of the programming and the availability of other programming that is perceived to be an adequate substitute. In general, the consumers placing a low value on the network are those who previously viewed the network least intensively when it was offered as part of a tier.¹³ By the same logic, one

¹³ The impact of a la carte pricing on networks that are valued chiefly as an option depends on the ease with which consumers expect to be able to subscribe to it when a relevant contingency arises.

can expect that the consumers who choose to subscribe to the network a la carte will tend to be those that viewed the network most intensively when it was bundled.

It is beyond the scope of this paper to predict the subscriber loss that networks would experience moving to an unbundled environment, which would depend on the a la carte prices that MVPDs charge as well as many other factors. However, some insight can be gained by looking at the viewing intensity that various networks have experienced in the bundled environment. As an example, TBS Superstation is distributed to about 88 million homes. In May 2004, about 24 million homes (27 percent) did not view TBS Superstation at any time during the month. One might expect that, in an a la carte environment, most of these households would be unlikely to subscribe. If one defined “high-intensity” homes as those that tuned to a network at least 25 percent of the days in the month, TBS Superstation had 26.9 million high-intensity homes, making up about 31 percent of total bundled subscribers. Table 1 shows for a selection of networks the percentage of current bundled subscribing households who were high-intensity. Results could vary across time, particularly for networks like CNN and The Weather Channel that tend to be more event-driven.

Table 1. Viewership Intensity for Selected Basic Networks

	Total Homes	“High-Intensity” Homes	Percent “High-Intensity”
CNN	87.9	13.1	15%
Discovery	88.5	17.5	20%
TBS	88.0	26.9	31%
Weather Channel	87.6	14.6	17%

Source: ABC Networks, based on Nielsen data for May 2004.

If the subscribers in an a la carte world were the same as those that viewed the network with high intensity in the bundled world, based on these examples, networks

offered a la carte could expect to retain in the neighborhood of 15-30 percent of their current subscriber base.¹⁴

Impact on Advertising Revenue

As described above, the subscribers that a network would lose when moving to an unbundled environment would tend to be those who previously viewed the network with relatively low intensity. Because the subscribers who would be retained tend to watch the network more than those who would be lost, the percentage reduction in viewership would be a smaller than the percentage reduction in subscribers. Nevertheless, casual viewers and channel surfers can account for a substantial share of a network's viewing audience, and losing such viewers in an unbundled environment would lead to a decline in advertising revenues.

Table 2. Viewership Intensity and Audience for Selected Basic Networks

	High-Intensity Homes as Percent of Homes Receiving Network	High-Intensity Homes as Percent of Audience
CNN	15%	86%
Discovery	20%	57%
TBS	31%	69%
Weather Channel	17%	81%

Source: ABC Networks, based on Nielsen data for May 2004.

Like Table 1, Table 2 shows for selected basic cable networks the percentage of households that are "high-intensity." Table 2 also shows the percentage of the viewing audience that comes from the high-intensity homes. For TBS Superstation, for instance, such homes are only 31 percent of the subscriber base, but they account for 69 percent of the audience. For TBS Superstation, these households have a viewing intensity about twice that of the average household subscribing in the current bundled environment. Viewing appears to be somewhat more skewed towards the high-intensity viewers for

¹⁴ This analysis does not consider whether these "high-intensity" homes would be willing to pay the price that would be charged for these networks if they were sold a la carte.

The Weather Channel and CNN, about five to six times the average subscribing household.

As a first approximation, one might naively expect the percentage reduction in advertising revenue resulting from unbundling to be about equal to the percentage reduction in audience. However, various other factors would tend to further reduce advertising revenues. For example, the remaining audience in the a la carte environment will tend to be less valuable because it is smaller.¹⁵ As discussed above, advertisers value unduplicated reach and pay a premium for a larger audience. Additionally, fewer subscribers imply that ratings data will be harder to obtain for some networks. The absence of ratings data reduces advertising rates because of uncertainty over audience size and demographics.

An offsetting factor that might reduce the loss of advertising revenue is a change in viewing patterns. Consumers that choose to take a network a la carte may watch the network more intensely than they did previously, because they would be decreasing their viewing of other networks to which they choose not to subscribe a la carte.¹⁶

Increased Network Costs Due to Unbundling

In an unbundled environment, a cable network would face additional marketing costs, since it would have to attract subscribers in competition with many other a la carte cable networks. A network's additional marketing costs would consist of subscriber retention programs, telemarketing, and subscriber acquisition programs, such as free previews of the network, promotional offers, direct-mail advertising, and consumer premiums. These expenditures are designed to increase the total number of subscribers

¹⁵ It is possible that if the network attracts a niche audience, advertisers of niche products may be willing to pay more per audience member for the a la carte audience than for the tiered audience. However, most advertisers sell products that appeal to a broad audience and purchase time to reach a broad audience. For such advertisers, there is little or no benefit, and perhaps a disadvantage, from restricting the audience to niche viewers.

¹⁶ If the network in question is one of only a few networks that are offered a la carte and its subscribers still subscribe to other basic networks on a bundled basis, this effect may not apply.

and to counteract the loss of households that discontinue their subscriptions. In addition to these marketing expenses, there are associated costs of the personnel needed to implement the marketing program.

In considering networks' marketing costs, it is important to bear in mind that moving to an a la carte environment would significantly change the way that consumers get information about networks. Unlike in a bundled environment, consumers would likely not be able to easily and costlessly browse other networks to sample their programming. Hence, there would be a significant reduction in consumer awareness of viewing options. To illustrate, imagine what would happen if the *Washington Post* were required to offer each section of the newspaper a la carte. Subscribers who now glance at, but do not read, certain sections would lose their current awareness of the content of such sections. When and if such content becomes relevant, they would have to engage in a relatively costly search process. For a new or repositioned network, the challenge of informing consumers about the network's programming would likely be much higher than in a bundled environment.

When it was marketed primarily as an a la carte service in the early 1990s (1990-93), Disney Channel spent about \$17 million per year on customer acquisition and telemarketing costs and about \$5 million per year on retention programs such as the *Disney Channel Magazine*. Since the network had around 4.6 million subscribers at that time, this translates to a cost of about \$4.70 per subscriber per year. In addition to this cost, there were the costs associated with the personnel implementing the programs. Including personnel costs could double Disney Channel's acquisition cost per subscriber.

Impact on Program Quality and Diversity

Some of the effects of unbundling on network programming can be illustrated by considering ESPN. While ESPN is used for illustration, similar effects would apply to other cable networks as well. First, an unbundled ESPN is likely to offer less niche sports programming. In order to broaden its appeal to occasional viewers, ESPN has expanded the categories of sports that it offers, such as women's college basketball and the World Series of Poker. Compared to the bundled environment, it would be much more difficult

for ESPN to attract occasional viewers with specialized interests, because such consumers would have to contact their MVPD and start a subscription. Instead, ESPN would respond to the reduction in subscriber and advertising revenue resulting from unbundling by focusing on mainstream, broad-appeal programming to attract a core audience. This would likely hinder ESPN's ability to nurture the development of new audiences.

ESPN may also lose the ability to keep high-profile sports and sports events. The sellers of rights to televise sports and sports events want wide distribution.¹⁷ With a smaller ESPN audience, the rights owners may well turn to other outlets. That is, if MVPDs shift ESPN to a la carte or a theme tier, rights owners may well seek substitute media with wider distribution. One possibility is that existing sports programming on ESPN would migrate to other cable networks with larger audiences. Such an audience differential would likely be most pronounced if ESPN is unbundled, or on a theme tier, and other cable networks remain bundled. In this case, unbundling ESPN accomplishes nothing as far as addressing any perceived link between high sports programming costs and subscription fees for consumers. The other possibility is that rights holders will find no suitable alternatives to ESPN and would simply drop the ESPN-type distribution outlet, limiting themselves to broadcast networks, regional sports networks, and high-end packages such as NFL Sunday Ticket. In that case, there would be a further reduction in sports programs available to the typical viewer compared to the bundled environment.

Impact on Subscribers

Offered as an individual service, a cable network would likely have fewer subscribers, a smaller audience, and increased marketing costs. Fewer subscribers means less license fee revenue, holding license fees constant. A smaller audience means less advertising revenue. Less revenue and increased cost reduces the funds available to acquire programming, and thus reduces the quality of programming available on the network, or raises subscriber price, or both.

¹⁷ See GAO Report, pp. 38-39.

As the GAO noted, “under a la carte it is possible that cable rates could actually increase for some consumers.”¹⁸ This is because to the extent that networks want to maintain programming quality they will increase license fees to offset the decline in revenue and the increase in costs, and these license fee increases are likely to be passed on to subscribers. Indeed, the only way that networks can maintain their current level of programming expenditure (and cash flow) and offset the decline in advertising revenue and the increase in marketing costs is if, on average, subscribers pay more.

Instead of raising license fees to maintain programming expenditures, a network may respond by decreasing programming expenditures. However, any decrease in program quality is also a cost to consumers. It is also quite possible that a network may not be able to attract enough subscribers to support the network and may fail.¹⁹

Because consumers’ expectations would likely be unfulfilled—due to unrealized savings, the reduction in program quality, or the exit of certain networks—there may be further pressure on Congress and the Commission to regulate cable rates and cable network and MVPD behavior.

Comments on “Mixed” A La Carte and Bundled Environments

As discussed above, if a network that was previously offered as part of a bundle begins to be offered a la carte, it will lose subscribers, audience, and subscriber and advertising revenue. To the extent that the network continues to be available as part of a bundle on some MVPDs, the effects are reduced. However, in such an environment, the network is likely to experience higher costs and lower efficiency than in either a pure bundled environment, as at present, or a pure a la carte environment. Networks would be forced to conduct two types of advertising and marketing simultaneously, which would tend to increase costs. In addition, because MVPDs offering the network a la carte may be scattered throughout the country, it would likely be less efficient to reach potential a la

¹⁸ GAO Report, p. 34.

¹⁹ See GAO Report, p. 36.

carte subscribers through mass media. It may also be more difficult for networks to choose optimal programming in this mixed environment, because the programming that would attract an audience in a bundled environment may be different from what would best attract a la carte subscribers. Uneven subscriber coverage throughout the country may also make the network less attractive when selling national advertising.

Under some proposals, such as a “theme tier,” apparently most basic cable networks would continue to be offered as part of a bundle and a few networks would be offered in a smaller bundle. Those networks that are excluded from the principal bundle will experience reductions in subscribers and audience. In fact, the effects on subscribers and audience may be even greater than they would be in a pure a la carte environment. If only some networks are unbundled and placed in a theme tier, those unbundled networks will suffer for the same reasons that an a la carte network suffers. The networks excluded from the principal tier would have to attract customers who already had available to them a large bundle of networks, with the associated efficiencies of bundling enjoyed by the consumers, MVPDs and the included networks. Moreover, since the composition of the “theme tier” will be determined by individual MVPDs, a network may be part of the theme tier in some areas and part of the larger bundle in others. For the reasons just discussed, this may make it more difficult for a network to program, to promote itself, and to sell advertising. As the GAO noted, “Creating a greater number of smaller tiers could cause many of the same technological and economic concerns as an a la carte approach.”²⁰

²⁰ GAO Report, p. 30.

Appendix A: Examples of Spikes in Viewership

“Hanging on the wall of Cable News Network President Tom Johnson’s office...is a bright-red chart with flat lines punctuated by occasional spikes that rise and fall in an unpredictable pattern. ...[T]he peaks and valleys on the wall document CNN’s simple commercial truth: News sells. Each spike represents a major event since 1985, and the bigger the spike, the bigger CNN’s viewer ratings. The explosion of Pan Am Flight 103 over Scotland, the Clarence Thomas hearings and the rescue of baby Jessica from an abandoned Texas well all generated strong numbers for CNN. And while the Persian Gulf war mustered record numbers for the cablecaster, CNN has found an even juicier draw in recent months: the O.J. Simpson trial. ...[A] major event such as the Simpson trial can more than double its audience.” (*U.S. World & News Report*, April 10, 1995, p. 56.)

“Speaking of peaks, MSNBC said its viewership rose to more than 621,000 when police closed in on Andrew Cunanan in Miami during prime time.” (*Electronic Media*, July 28, 1997, p. 3)

“As viewers flocked to coverage of Princess Diana’s death, the cable-news networks drew un-accustomed kingly ratings. Cable News Network and relative newcomers Fox News Channel and MSNBC all reached ratings milestones with their Diana reportage.” (*Multichannel News*, September 8, 1997, p. 19.)

“All three cable networks providing gavel-to-gavel coverage of the Simpson trial -- CNN, Court TV and E! -- say their ratings are up strongly.” (*Mediaweek*, February 6, 1995, p. 5.)

“After years of struggling, regional cable news networks are finding an audience and advertisers. ... ‘When there’s a breaking news story, whether it’s severe weather in the Pacific Northwest, a pipe bursting in New York or the inauguration in Washington, RNNs can grab five times their normal ratings,’ said Stuart Zuckerman, director of sales at National Cable Communications, which sells national ads for seven major market RNNs...” (*Multichannel News*, April 14, 1997, p. 30A.)

“The Weather Channel and the three 24-hour local cable news outfits – Washington’s Newschannel 8, New England Cable News and New York 1 – that covered the blizzard nonstop all reported huge ratings gains during the storm. ...[A] spokesman for Cable News network said its storm coverage caused a 20 percent jump in viewership on Monday, Jan. 8, over the previous Monday ratings. ...TWC set a ratings record on Jan. 7, when it averaged a 1.5 rating from 6 a.m.-midnight. The network’s viewership peaked at 2.9, also the highest in its 13-and-a-half year history. In Washington, Newschannel 8 peaked at a 7 rating in its cable universe, which is about seven times its usual audience...” (*Multichannel News*, January 15, 1996, p. 12.)

“Naturally, folks at the [Weather] channel are always on the lookout for a really big storm. When Hurricane Erin hit in August, viewership jumped to 1.4 million. ‘Hurricanes are like the O.J. Simpson trial for us,’ says [Michael] Eckert,” The Weather Channel’s chief executive. (*Forbes*, October 23, 1995, p. 320.)

On September 6, 1995, Cal Ripken passed Lou Gehrig’s record for consecutive games played. The ESPN Wednesday night game that night averaged a 6.98 rating, which is 320 percent greater than the 1995 season average of 1.66 for Wednesday night games. Following the game was coverage of “Cal Ripken Ceremonies,” which attained an even higher audience--a 7.27 rating.

On January 6, 1994, Nancy Kerrigan was attacked in an ice skating arena in Detroit. On that evening, Sportscenter ESPN at 7PM averaged a 1.65 rating which is 42 percent greater than the previous day’s rating, and 54 percent greater than the 1994 Sportscenter average of 1.07.

In October 1993, Michael Jordan announced his “retirement” from the NBA. Live coverage of this announcement on October 6 at 11am in a special edition of Sportscenter attained a 1.87 rating. Sportscenter at 7PM on that same day averaged a 1.61 rating, which is 45 percent greater than the previous day’s rating and 30 percent greater than the 1993 season average.

Some movies on Lifetime, such as “Any Mother’s Son” and “Fifteen & Pregnant,” have generated ratings over three times as high as the network’s average prime-time rating.

Some documentaries on Discovery, such as “Titanic: Anatomy of a Disaster,” “Raging Planet” and “Wolves at Our Door,” have generated ratings at close to or over three times as high as the network’s average prime-time rating.

The Comedy Central program “South Park” has achieved ratings four times higher than the network’s average prime-time rating.

Some movies on TNT, such as “Buffalo Soldiers” and “Last Stand at Saber River,” have generated ratings over three times as high as the network’s average prime-time rating.

Some movies on TBS Superstation, such as “Dumb & Dumber” and “Total Recall,” have generated ratings over three times as high as the network’s average prime-time rating.

Appendix B: Example of Inefficiency from Unbundling

This appendix provides a simple example to show how unbundling can make some or even all consumers worse off. Consider a cable operator that carries two networks—Network X and Network Y.²¹ Assume that, for every viewer (A) who really values the programming on Network X, there are two viewers (B and C) who care relatively little about Network X. Assume further that the representative Viewer A values Network X at \$150 per year and Network Y at \$60 per year; in contrast, the other two typical viewers value Network X at only \$20 per year and place a total annual value on Network Y of \$200. The representative subscribers' valuations of the programming networks are presented in the following table. For purposes of this example, it is assumed that the marginal cost of supplying a subscriber with either Network X or Network Y is zero.

SUBSCRIBER VALUATIONS OF PROGRAMMING NETWORKS			
	Network X	Network Y	Total
Viewer A	150	60	210
Viewer B	20	200	220
Viewer C	20	200	220
Total	190	460	650

²¹ Networks X and Y can be thought of either as individual cable networks or bundles of cable networks.

Under the current arrangement in which all networks are bundled together, the cable operator charges a bundled price of \$210 per year to all viewers, because this is the price that gives the cable operator the most profit. Revenue at this price equals \$210 for each of the three viewers, or \$630 total. If the same cable operator offered the networks a la carte, the operator would price Network Y at \$200 per year. It would choose this price because if it set the price sufficiently low to induce Viewer A to purchase Network Y (\$60 in this example), it would have to lower price to all viewers, and it is more profitable to sell Network Y to two viewers at \$200 each than to sell it to all three at \$60. Similarly, the cable operator would offer the Network X at \$150 to one viewer rather than drastically reducing the price (to \$20) in order to sell it to all the viewers.

In this example, unbundling makes everyone worse off. The cable operator's revenue drops significantly (as do its profits, since its costs are essentially unaffected by the number of signals viewers choose to receive). Perhaps less obvious is the fact that consumers are worse off as well. In particular, Viewers B and C are hurt by the regulation because they lose Network X's programming that they value at \$20/year, but they save only \$10 in annual cable bills. On balance, both viewers are \$10 worse off than if they were "required" to purchase Network X. Viewer A loses programming valued at \$60, but at least he saves that much on his cable bills. Social welfare is also reduced. This is because Viewer A no longer receives \$60 in enjoyment from viewing Network Y. Similarly, the other viewers no longer each receive the \$20 in benefits from Network X. Social welfare is reduced by \$100 because viewer benefits have fallen \$100 without any offsetting cost savings to society.

Offering the networks a la carte reduces total welfare because it induces pricing so as to exclude some consumers. This effect is most pronounced when the value of a network is concentrated in a relatively small number of viewers, and when these viewers derive most of their utility from a small number of networks. Under those circumstances, the cable operator will tend to price the a la carte offering so as to exclude a large number of viewers with low valuations for a particular channel. While all networks are produced, distribution is severely limited under these circumstances and total welfare suffers as a result.

Similarly, unbundling particular networks (or forming a small tier of similar networks) may result in severe welfare losses, particularly if such networks are highly valued by a relatively small number of subscribers. The losses occur because profit-maximizing cable operators would price the small tier of networks in such a way as to exclude many viewers with relatively low valuations for the networks. Moreover, the cable operator will price the bundle of remaining networks at a level that excludes those who derive most of their viewing enjoyment from the a la carte or mini-tier offering.

Appendix C: Example of Inefficiency from Unbundling or Mixed Bundling

This appendix uses an extended numerical example to illustrate the effects of unbundling on consumer welfare, which are complex. This example abstracts from welfare losses arising from advertising revenue/audience size feedback effects and also ignores welfare losses arising from increased consumer search costs and increased supplier marketing costs. While the precise magnitudes of the effects depend on the specific numeric values chosen, the general conclusion is that departures from bundling can make a sizeable portion of consumers worse off.

Consider a cable operator that carries two networks—Network X and Network Y.²² The operator can market these networks to consumers under one of three possible regimes. Under an a la carte regime, the operator sells each network separately. Under the pure bundle regime, the operator sells the networks only as a bundled product. Under the mixed bundle regime, the operator offers to sell the networks both individually and as a bundle.

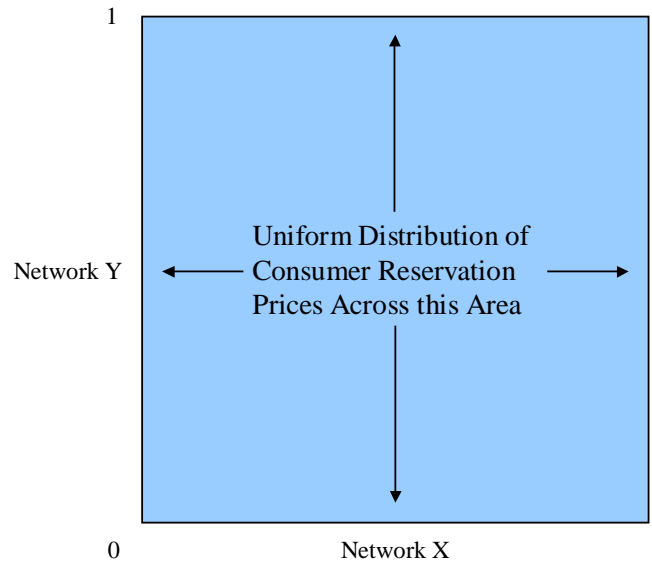
Assume that consumer preferences for each network are uniformly distributed identically and independently from \$0 to \$1 for each network.²³ That is, consumers can be thought of as being uniformly distributed across a unit square, with any given consumer's valuation of Network X being measured along the x-axis and the consumer's valuation of Network Y measured along the y-axis. See Figure C1.²⁴ Also assume, for purposes of this example, that the marginal cost of supplying a subscriber with either Network X or Network Y is zero.

²² Networks X and Y can be thought of either as individual cable networks or bundles of cable networks.

²³ The upper bound of the range is not important and does not affect the analysis.

²⁴ See Adams and Yellen, "Commodity Bundling and the Burden of Monopoly," *Quarterly Journal of Economics*, Vol. XC, No. 3 (August 1976), pp. 475-498.

Figure C1



Pure Bundling

First consider the operator's profit-maximizing behavior under a pure bundling regime. The operator gets to select the profit-maximizing price for the bundle consisting of Networks X and Y. In setting the price, the operator knows that only those consumers whose combined valuation of Network X and Network Y exceeds the price set will purchase the bundle. Under the assumptions of this model, the profit-maximizing price is approximately \$0.82.²⁵ The profit-maximizing equilibrium is depicted in Figure C2. Consumers in region A value the bundle at less than \$0.82 and do not purchase it. In contrast, consumers in region B value the bundle at more than \$0.82 and subscribe.²⁶ Table C1 summarizes various characteristics of the pure bundling equilibrium.

²⁵ Throughout this appendix, all numerical values in the text will be rounded to 2 decimal places and numerical values in tables will be rounded to 4 decimal places.

²⁶ Consumers on the line value the bundle at exactly \$0.82 and are indifferent about subscribing.

Figure C2

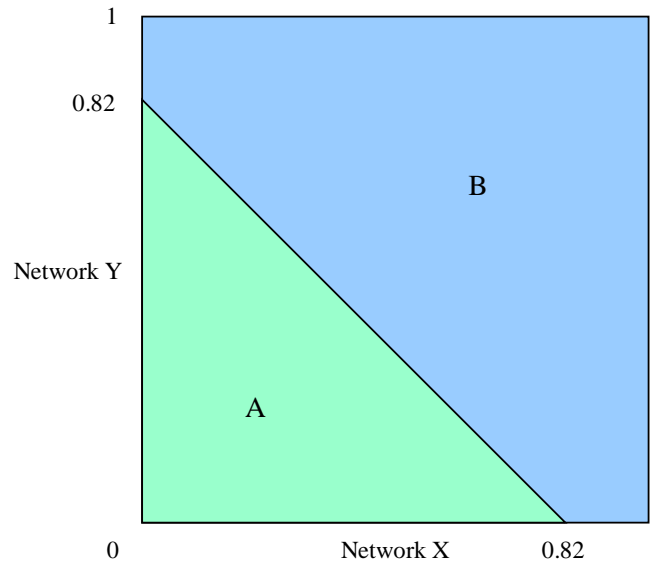


Table C1

Price Network X	N/A		Consumer Surplus	\$0.2742
Price Network Y	N/A		Social Surplus	\$0.8186
Price Bundle	\$0.8165		Subscribers to Network X	0.6667
Profit	\$0.5443		Subscribers to Network Y	0.6667

A la Carte

Next consider the operator's profit-maximizing behavior under an a la carte regime. Now the operator selects the profit-maximizing prices for each network separately. In setting the price, the operator knows that only those consumers who value either Network X or Network Y in excess of the price set for that network will purchase that network. Moreover, the price set for one network, and whether a consumer subscribes to that network or not, does not affect the consumer's decision about whether to subscribe to the other network.

Under the assumptions of this model, and due to the symmetry of the model, the profit-maximizing price for both Networks X and Y is \$0.50. The profit-maximizing equilibrium is depicted in Figure C3. Consumers in region A value each network at less

than \$0.50 and subscriber to neither network. Consumers in region B value Network Y at more than \$0.50 but value Network X at less than \$0.50, so they only subscribe to Network Y. Similarly, consumers in region D only subscribe to Network X since they value Network X at more than \$0.50 but value Network Y at less than \$0.50. Finally, Consumers in region C subscribe to both networks, since they value both networks at more than \$0.50. Table C2 summarizes various characteristics of the a la carte equilibrium.

Figure C3

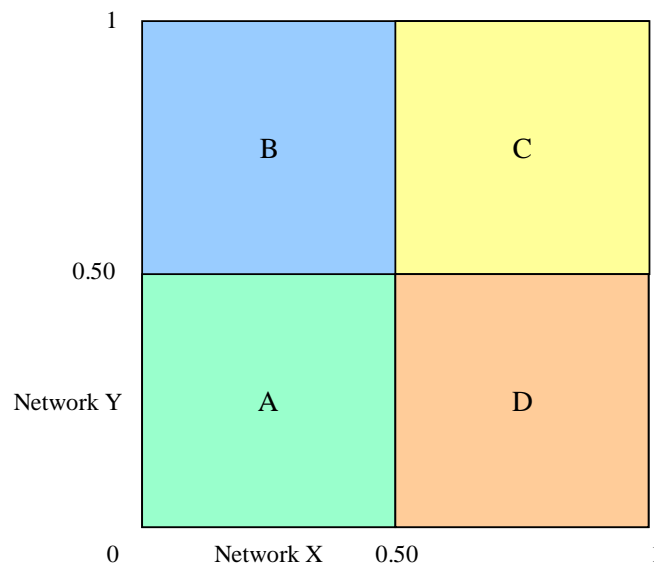


Table C2

Price Network X	\$0.5000		Consumer Surplus	\$0.2500
Price Network Y	\$0.5000		Social Surplus	\$0.7500
Price Bundle	N/A		Subscribers to Network X	0.5000
Profit	\$0.5000		Subscribers to Network Y	0.5000

Under this example, a move from pure bundling to an a la carte regime reduces profit, reduces consumer surplus, reduces social surplus (defined as the sum of profit and consumer surplus), and reduces the number of subscribers to each of the networks.

Mixed Bundling

Next consider the operator's profit-maximizing behavior under a mixed bundling regime. Now the operator selects the profit-maximizing prices for each network if sold separately and the price of the bundle. The operator sets each price realizing that the consumer will select the option that yields that largest consumer surplus. That is, for example, the consumer may value the bundle at more than the price of the bundle but will still choose to purchase only one of the networks if that option yields a larger surplus to the consumer.

Under the assumptions of this model, and due to the symmetry of the model, the profit-maximizing price for both Networks X and Y is \$0.67 and the profit-maximizing price for the bundle is \$0.86. The profit-maximizing equilibrium is depicted in Figure C4. Consumers in region A do not subscribe to either network or the bundle. Consumers in region B only subscribe to Network Y. This is because the surplus they receive from buying only network Y exceeds the surplus they get from buying the bundle. Similarly, consumers in region D only subscribe to Network X. Consumers in region C purchase the bundle. Table C3 summarizes various characteristics of the mixed bundling equilibrium.

Figure C4

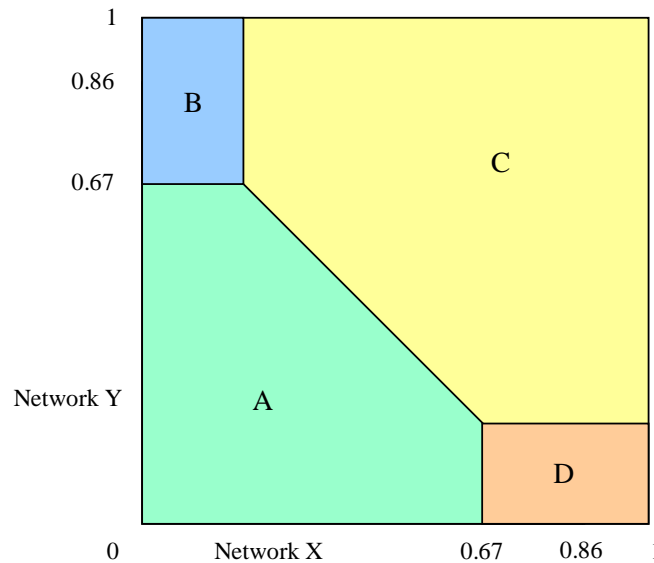


Table C3

Price Network X	\$0.6667		Consumer Surplus	\$0.2550
Price Network Y	\$0.6667		Social Surplus	\$0.8042
Price Bundle	\$0.8619		Subscribers to Network X	0.6016
Profit	\$0.5492		Subscribers to Network Y	0.6016

Under this example, a move from pure bundling to a mixed bundling regime increases profit, reduces consumer surplus, reduces social surplus (defined as the sum of profit and consumer surplus), and reduces the number of subscribers to each of the networks.

Impact on Consumers

Figures C5 and C6 show how consumers fare under an a la carte regime or a mixed bundling regime relative to pure bundling. Some consumers are better off and others are worse off. In both figures, consumers in region A do not purchase either network under either regime. Consumers in region B purchase Network Y under a la carte or mixed bundling but neither network under pure bundling. In a similar fashion, consumers in region F purchase network X under a la carte or mixed bundling but neither network under pure bundling. These consumers are better off under a la carte or mixed bundling since they are subscribing to one of the networks whereas under pure bundling they did not.

Consumers in regions C1 and C2 only subscribe to Network Y, whereas they subscribed to both networks under pure bundling. Likewise, consumers in regions E1 and E2 only subscribe to Network X, whereas they subscribed to both networks under pure bundling. Consumers in C1 and E1 have a larger consumer surplus under a la carte or mixed bundling than under pure bundling. In contrast, consumers in C2 and E2 had a larger consumer surplus under pure bundling than under a la carte or mixed bundling.

Figure C5

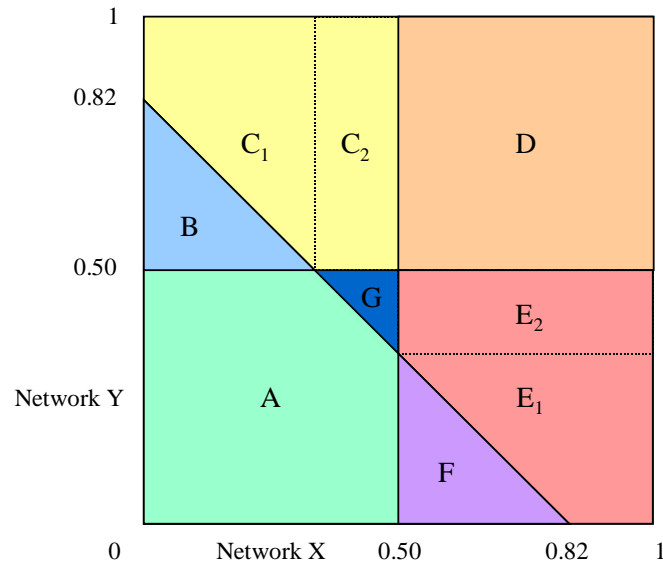
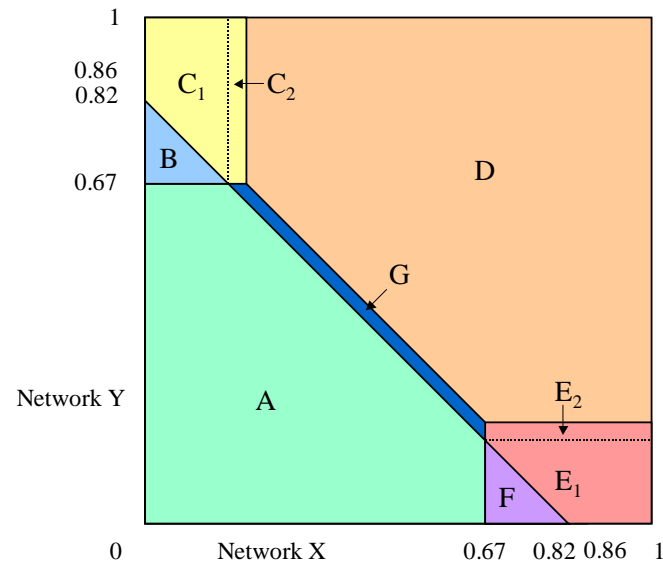


Figure C6



Consumers in region D subscribe to both networks, but pay a total of \$1.00 under a la carte or \$0.86 under mixed bundling compared to only \$0.82 under pure bundling. These consumers were better off under pure bundling.

Finally, consumers in region G subscribed to both networks under pure bundling but neither network under a la carte or mixed bundling. These consumers were better off under pure bundling.

In this example, a move from pure bundling to a la carte makes about 45.0 percent of consumers worse off, about 31.7 percent better off, and leaves 23.3 percent unaffected. A move from pure bundling to mixed bundling makes about 58.2 percent of consumers worse off, about 10.4 better off, and leaves 31.4 percent unaffected.